

THE STORY OF ELECTRICITY IN ALABAMA

SINCE THE TURN OF THE CENTURY
1900 - 1952



By
THOMAS W. MARTIN

BIRMINGHAM, ALABAMA
1953



THE AUTHOR

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Since the first printing of this volume, attention was called to several omissions and other data which could well have been included in that edition.

In the interest therefore of accuracy, as well as the desire to make the history more generally available, this second printing has been made.



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A History of
Alabama Power Company
and its principal characters
through whose efforts
electric light and power were brought to many
communities and areas;
giving widespread employment
to thousands of
Alabama citizens; and bringing
improvement in living conditions
and the social benefits of a
vigorous enterprise system
of industry.

"Kings, warriors and statesmen have hitherto monopolized not only the pages of history, but almost those of biography. . . . I do not begrudge destructive heroes their fame, but the constructive ones ought not to be forgotten."

SAMUEL SMILES (1812-1904)

PREFACE

This history has been in preparation for a good many years. On every page I write of men who have in their own time made their contribution to this story. They overcame great obstacles; no hours of the day were too long to devote to the mastery of the problems that confronted them.

In this eulogy of one such pioneer, Owen D. Young, quoted this apt verse from Charles Lamb:

"If, as the serious preach and the prudent say,
The time and tide will not for mortals stay,
T'were well for us to take them as our guide,
And stay as little for the time and tide."

Many there were in this story who stayed "little for the time and tide."

It is my wish to give special recognition to the work, during their lifetimes, of my good friends and loyal co-workers, Robert H. Mangum and Thomas Bragg, who undertook to assemble material for a history some twenty years ago; to Perry W. Turner, my faithful friend and co-worker in the affairs of the Company; and to Douglass Clark, long my faithful secretary and then my assistant, who contributed much through his years of association with me and faithfully recorded many of the events herein mentioned.

I am especially indebted to Lewis M. Smith and my brother, William Logan Martin; and to Massey Wilson, my associate and law partner before I joined the Power Company group.

I should like to acknowledge the excellent work more recently of John W. McIntosh, of Birmingham, for reviewing material which had been assembled from time to time and further inquiring into some of the subjects which are herein referred to. Much of his work is reflected in the final history.

Before, during and after the writing of this volume began, my fellow workers aided in so many ways that it is not possible to acknowledge my indebtedness to each individually.

The list is so long that surely some would be omitted; but I do, nevertheless, express to them grateful appreciation.

For reading portions of the manuscript, aiding in identifying facts and faces long gone from our scenes; providing the benefit of specialized knowledge, I am especially indebted among others, to Walter M. Hood; Stephen A. Dawley; Lou Shipley; Margaret F. Johnson; Evelyn J. Haynes and Blanche Beall.

Particularly I should like to acknowledge the work of John Temple Graves. As the history assumed its final form, Mr. Graves kindly consented to review, coordinate and interpret various activities of the Company. This has been one of the most important phases in the final drafting and I am greatly indebted to Mr. Graves.

I should also like to express appreciation to Clarence M. Kilian for his interest and assistance in assembling the material and pictures for the book.

I am indebted to editors and publishers of books and pamphlets, from which I have quoted or to which I have referred, for permission to include the material in this volume.

Much historic and human activity has been omitted in the interest of brevity. Great accomplishments are mentioned, all too briefly, on every page. There were frequent business and political controversies as we endeavored to create an enterprise adequate to serve the needs of a large part of the state. Most of these have been omitted.

Finally, however, I take full responsibility for the selection, writing and assembly of the material—and the implications therefrom. I fully realize that in the years to come, another may undertake the same task and perhaps come to other conclusions than those expressed.

Such is the course of history.

In behalf of my fellow workers—past and present—this history is presented, with pride and with courage and confidence, as we look to the future.

T. W. M.

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INTRODUCTION

A HISTORY OF THE ALABAMA POWER COMPANY

What makes the story in these pages significant, and promises it many years of reference, is that it is really two stories.

It is the story of the building of an electric power company, and it is the story of what the author calls the "manufacture of customers." Between the lines of each is the emerging South, serving both stories and greatly served in both.

Expanding out of poverty in the early days of this century, the economy of Alabama and the South had great need of the men who put together financial and physical resources and contributed the resolution and the dream that created electric power companies. No other impetus, we may believe, was so important as this new facility that brought not only industrial and farm power but new range, vista and convenience of living. It let the Southern states leapfrog, in some respects, the drearier aspects of the industrial revolution which had come earlier to North and East, and in one long stride move from far behind to well ahead.

But equally meaningful in this volume are the recitals of what Mr. Martin and his associates in the Alabama Power Company did when they had caught up, when the existing demand for electric power was served or in sight of being served and when the future growth of the company depended on an accelerated progress of Alabama and the South in economy and civilization.

Enlightened self-interest has no better example, I believe, than what these pages report of the successful efforts to multiply demand for electric power by seeking out and bringing in new industries, befriending the farmer as he moved towards machinery, crop diversification, soil conservation, livestock, land ownership and scientific self-help; organization of commercial activities; speeding with large gifts and fine fancy the advances of scientific research; encouraging community, state and regional spirit and awareness; recalling history; helping schools.

In all of this "manufacture of customers" it meant much that the moving spirit, who has written this story, was himself so native to, and so in love with, the land that bore him. There were some mistakes in electric power development in America, and there are mistakes, I think, in the record of the Alabama Power Company but never the mistake of failure at the top to cherish the state and the region around and to see company advancement through community advancement. There were industries in earlier days of Southern industrialization which came only to produce their wares and had no concern for the South itself. But from the beginning the Alabama Power Company has loved both to produce here and to sell here. That has been in the nature of the thing produced, of course, but it has been the nature and high preference of the chief men of the company, too. And as they look about them today at industry moving South on so many fronts, coming not only for the raw materials and the labor supply but for the great new market the South represents, they can tell themselves that they knew it all along.

* * *

Only Thomas W. Martin could have written this book.

Others might have sought out the record, but not so faithfully, for he remembers it all. Others might have reported the sequences, problems, aspirations, economics, politics, surrounding events, motivations, but only he can write them with authority, for he was in command.

The story has been his life, ever since that day in 1911 when a great entrepreneur, James Mitchell, called at his law office in Montgomery and they set forth together to the Cherokee site. That he has made it a life abounding, first as general counsel of the company, then for many years, when James Mitchell died, as president, and lately as board chairman, these pages say between all their lines. But these pages do not say in what esteem among his fellows this author who is also this history-maker finds himself at the final chapter, and what service to community, state and nation far beyond the call of a power company that esteem reflects. They say nothing of the nationwide vote which has named him one of America's "fifty foremost business leaders;" citing him as "head of a public utility corporation who consistently operates it as a true public service, who has won the friendly cooperation of its consumers

and, by vigilantly promoting scientific research and economic development and by originating new applications of electric power to factory and farm, has uniquely promoted Southern prosperity."

They say nothing of the joint resolution of his state's legislature in 1951 saluting him as a mighty factor in the South's growing, and paying tribute to his "constant, untiring and unselfish work in the fields of industry, education, research and history for the benefit of the people of Alabama and the South."

They have no description of the great testimonial dinner to him at the Thomas Jefferson Hotel in Birmingham on November 13, 1951, when men of all walks and ways and every distinction and grace gathered to honor him as "lawyer—industrialist—scholar—humanitarian." They do not speak of that culmination a few weeks later which proved him so magnificently not without honor among his home people when he was named Birmingham's Man of the Year, 1951.

And they would never be so emotional or immodest as to speak of the simple affection he wins, regardless of pomp and place, from those who know him.

It is exciting to live in the same Alabama and South with this spirited, indomitable, mobile-faced little man, all grit and grace, whose will, ability, eloquence and bright fancy have built so many mansions in our Southern skies. He is always up to something, always the moving spirit of something. Putting together a power company and keeping it growing; fathering a state chamber of commerce and a Southern Research Institute; writing Alabama history; being a friend to England, Finland and France; presiding over Rotary; getting a news-print paper industry established; moving heaven and earth to see Gorgas in the Hall of Fame; being the moving spirit of a branch of the Newcomen Society.

He is a very moving spirit indeed, and there is never a dull moment.

John Temple Graves

July, 1952

JOHN TEMPLE GRAVES

FOREWORD

A FEW months ago the author drove from Montgomery to Dadeville, and thence to Cherokee Bluffs on the Tallapoosa River—now Martin Dam. It was the same route that he travelled in company with James Mitchell in 1911, when the Alabama Power Company was a mere conjecture.

The whole countryside had changed vastly in the intervening years. To a large extent the share cropper and tenant farmer have been replaced by the home owner; it is now a region of prosperous farms and comfortable homes, with numerous factories to furnish employment for wage earners and markets for farmers. Industry is not only balancing agriculture, but has been the essential element in building a prosperous agriculture in this part of the Deep South. There are better roads, better schools and better churches. What was observed on this trip is but a token of the change that has come over our state—indeed, the entire South.

There is concern for the land. It is being saved by the thousands of acres through simple, patient, intelligent methods. There are cover crops on the tillable land, and new growth of the native pine, for man has learned to protect the natural growth and to plant pine seedlings. The movement of the rain water has thus been slowed down and the county of Tallapoosa has become one of the most prosperous in the state.

Alabama has undergone a marvelous change in these five decades. And the development and transmission of electric power has in large measure influenced these changes by stimulating industrial development, creating thousands of new jobs and thus promoting a better standard of living with more of the comforts and conveniences of life for the people of our state.

It seemed to the author that it would be well to record these changes which have come about, and to indicate how power has meant progress in Alabama.

And so, I have set down some of the events leading to and flowing from the introduction of electric power in Alabama.

in order that contemporary opinion may interpret them in relation to the industrial age they helped create in this section of the Deep South.

The reason for these things you will not be so apt to find in statistics as in the attitudes of living men and of the many who have passed away.

To an extent this volume is intended to present such attitudes, as well as some of the results of the work of Alabama Power Company over the years. It is dedicated to the thousands of men and women who have had part in making the Company an important public agency.

Thos. W. Martin

Birmingham, Alabama
July 1, 1952

**THE STORY OF ELECTRICITY
IN ALABAMA**

CHAPTER ONE

FROM AMBER TO EDISON

THE steam engine may be regarded as the greatest invention of all time. It launched the age of machines and of machine power. There had been manpower, horsepower, wind-power and the power of water falls, but steam power was power multiplied many times over, leading to electric power, oil power and now, atomic power.

We have a society in America and England called The Newcomen Society, for Thomas Newcomen, who built the first steam engine in 1699, perfected by James Watt in 1775. The society centers its work in the history of material civilization. To call it the Society of Civilization would not be excessive, for the story of machines is much the story of human progress in the eighteenth, nineteenth and twentieth centuries. The Industrial Revolution, which began with Newcomen and Watt and altered the face of England in the last half of the eighteenth and the first half of the nineteenth century, came to our country shortly after the Revolutionary War. Its great impact upon America was in the years between 1850 and 1900; upon Alabama these past fifty years.

The literal meaning of "*manufacture*" is "*to make by hand.*" That is how goods were made before the industrial revolution. So long as man was dependent on his own physical power for the production of goods there was a scarcity of manufactured articles, prices were high, wages low. The introduction of power-operated machines not only multiplied production but also made it possible to produce more cheaply, placing manufactured goods within the purchasing power of the common man. This has profoundly altered the structure of all living.

"Every invention," said Sir Joseph Swan, "has a pedigree." The pump of Savery is often regarded as parent of the Newcomen steam engine. Savery was a scientific experimenter, a laboratory man. He saw his pump as an enlarged form of a

device which he rigged up, perhaps with a couple of Florence flasks and a few quills, to exhibit to others. But Newcomen was an ironmonger, a practical worker in metal. From the beginning he visualized his engine as a machine, a device with working parts, a substantial thing to aid his laborious task of coal mining. For the first seventy-five years of its existence, its sole application was raising water. "When Thomas Newcomen began lifting the water from the mines by steam," said Dr. William Monroe White,¹ chief engineer of Allis Chalmers Manufacturing Company, in a Newcomen Society address in 1946, "he loosed the thought that steam power could do man's physical labor—which thought has spread to every clime with transcending effect."

In that interesting volume "James Watt and the Steam Engine"² the authors note that Watt arrived in Birmingham (England) May 31, 1774, and that

"The possibility of applying animal and water power for the needs of ever-growing industry had been explored and their limitations had been realized, so that there was a wide field awaiting any new means of supply-power, especially one that could be located at any desired spot."

Before the steam engine, work waited on power or went in search of it like Mohammed to the Mountain. This invention brought it about that in lieu of meager and unreliable amounts furnished by falling water, wind and animal power, energy became available when and where needed and in unlimited quantities.

* * *

Among the greatest of the boons to man that have come since the invention of the steam engine is electric power.

¹White, William Monroe, *Power, Production, Prosperity*. A Newcomen Address. Princeton University Press. 1948. Dr. White, native of Alabama; graduate of University of Alabama with degree of Mechanical Engineering (1899); became chief engineer of Allis-Chalmers Mfg. Co. and made frequent visits to Alabama. His thoughtful address is one of the notable contributions to American science and economics.

²Dickinson & Jenkins; Oxford; at the Clarendon Press (1927), p. 41.

Although the electric telegraph of S. F. B. Morse went into operation between Washington and Baltimore in 1844 ("What hath God wrought!"), the age of electricity may be said to have begun in the early 1880's when Thomas Alva Edison introduced in a small area of New York City the electric light he had invented. "The organization of the Edison Electric Light Company (in 1878)," says Floyd A. Lewis,¹ "marked the beginning of today's great electrical utility systems, and it was thus against a background of private enterprise that the genius of Edison was projected and brought to fruition for the great benefit of the world."

Edison's historic Pearl Street² system in New York began operation September 4, 1882. The laying of the underground mains and feeders, the building of the generators, the manufacture of other detailed equipment required before the station could be placed in operation, and the construction of the power station itself, constitute one of the most dramatic episodes in the history of industrial America. Thomas A. Edison not only supervised all the operations, but did some of the work himself. He was present almost continuously, day and night. "I had to give my careful and constant supervision," he said afterwards. "I actually worked in the trenches in the streets in which the conductors were being laid, making many of the connections myself."³

"Every aspect of the Pearl Street system was of an unprecedented nature," said Mr. Lewis. "Every step presented fresh problems with all the headaches and heartaches that always are associated with such developments. Nor were all the problems solved when operations began, for there were many operating difficulties to be grappled with. That all these problems were eventually solved and all the 'bugs', as Edison had termed them, located and eliminated is itself the best testimonial to

¹"The Incandescent Light: a Review of Its Invention and Application," by Floyd A. Lewis, with a foreword by Charles F. Kettering, president of the Thomas Alva Edison Foundation, Inc. p. 23, 1949, compiled by Coakley & Company, Public Relations, New York. Excerpts on this page and in Appendix reproduced with permission.

²See Pearl Street Station and Edison Electric Light Company in Appendix, pages 173 and 174.

³The Incandescent Light: Ibid 50.

the genius and steadfastness of purpose of the great inventor and his men."

Initially, the Pearl Street Plant supplied about 400 lights, principally to individuals. Growth was rapid. By December, 1882, more than 5,000 lights were connected in the one-square-mile area. This first system to serve individual consumers was followed soon by similar installations in other parts of New York and in other cities throughout the world. "Such growth," Mr. Lewis said, "undoubtedly far exceeded even the wildest hopes of the small band of men who only a few short years earlier had invested their private means in what was then only an idea in a young inventor's mind."

Developments followed rapidly in this and other uses of electricity.¹

It is told of Thomas Edison that when he registered on one occasion he was asked to write what he was interested in. Mr. Edison wrote, "Everything." The sign of that universality is in the myriad uses that have resulted from his pioneering in electric development, and in the nature of electricity itself.

If the greatest invention of history has been the steam engine, the greatest agency of civilization has been electricity. The name comes from a Greek word meaning "amber." The ancients knew 585 years before Christ that when a piece of amber is rubbed it acquires the property of attracting small particles of other substances.² But it was not until 1600 A.D. that the phenomenon of amber was carefully studied and reported upon by William Gilbert. From then on it began to have the attention which has resulted in the great developments of the nineteenth and twentieth centuries. After Gilbert's study, Robert Boyle produced the first machine to produce electricity by friction. In the first part of the eighteenth century Stephen Gray made the epochal discovery that

¹See also "Men and Volts—The Story of General Electric," by John Winthrop Hammond. J. B. Lippincott Company, 1942.

²"Science cannot yet really 'explain' electricity, magnetism, and gravitation; their effects can be measured and predicted, but of their ultimate nature no more is known to the modern scientist than to Thales of Miletus, who first speculated on the electrification of amber around 585 B.C. Most contemporary physicists reject the notion that man can ever discover what these mysterious forces 'really' are."—Lincoln Barnett in "The Universe and Dr. Einstein," page 7, William Sloane Associates, 1950 [used with permission].

electricity could be led from one place to another by certain substances but that others would not conduct. Every school-boy knows the story after that. When we look at the practical applications that have come from these beginnings—the electric motor, the dynamo or generator, the telegraph, telephone, electric light, electric heater, radio, television, radar, electronics—and at the countless uses to which these are put and the new uses each year discloses—“everything” is indeed the word for Thomas Edison’s interest.

CHAPTER TWO

FALLING WATER

ELECTRICITY, more than anything else, broke the monopoly on manufacture which New England had held so long, and encouraged industrial enterprises in other sections of the country, especially the South. A fluid force, it could be generated in one place and employed in another. It enabled factories to be built at locations distant from falling waters. It emancipated industry from the water wheel.

Before steam or electric power there was this power of water falling on the paddled rim of a wheel. Destined to dramatic employment later on as electricity, water power was inefficiently and incompletely used¹ in the rough ways of the wheel, but it gave a power greater by far than man power or animal, or even wind power.

The water wheel is one of the oldest applications of power by man. Wheels of the overshot and undershot varieties had been in use for centuries when the steam engine was perfected. Their use was restricted, of course, to localities of streams with sufficient fall to make possible their operation.

In Colonial America hundreds of small industries used the power developed by water wheels. Many of the pioneer settlers of Alabama, when it was a part of the Mississippi Territory, established water power mills under the provisions of a law passed by the territorial legislature in 1812 to encourage the building of "grist mills, saw mills, cotton gins, or other useful water works" on the various watercourses of the territory. The grist mill was a great institution in the community as well as a favorite gathering place.

¹The water turbine, however, is of fairly recent origin, and is rightly considered one of the most important steps in the application of power to work. As evolved by Fourneyron in 1832, the turbine is a special kind of water wheel, encased with the actuating stream of water in such a way that nearly all the energy is developed as power.

As the communities grew, water power was set to many uses other than the commonplace essential tasks of doing the milling and supplying the lumber of pioneer Alabama. Steam power began to appear also.

In 1818 on Cedar Creek in Franklin County some three miles from Russellville, Joseph Heslip built the first iron works in Alabama and used water power to drive the bellows for a blast furnace and for lifting the forge hammer which weighed five hundred pounds.¹ Sometimes trip hammers were operated by cogs attached to the water wheel shaft.²

Fourteen other installations followed in the developing iron industry, using either water or steam. In 1852 a steam plant was erected in connection with a furnace operation, using the waste heat of the furnace.³ Several foundries sprang up for making water wheels and other parts needed in both steam and hydraulic plants.⁴

The dominant manufacturing enterprise in Alabama before the War Between the States was the spinning of cotton. Cotton mills were built near Huntsville between 1809 and 1815 by Charles Cabaniss & Company. In 1832 the state legislature incorporated the "Bell Factory of the County of Madison" to manufacture cotton cloth.⁵

The most notable industrial development in ante-bellum Alabama was at Prattville. Water power there was first used in about 1830 by a man named May to operate a small saw mill. In 1833 Daniel Pratt came to Alabama seeking a location for a plant to manufacture cotton gins. After examining several sites he settled on the banks of Autauga Creek, in what is now Autauga County near Montgomery. He purchased the water power site, together with the adjacent lands, and placed a brick dam eighteen feet high across the creek. It developed approximately 355 horsepower. He established the village of Prattville and built his cotton gin manufacturing

¹The Story of Coal and Iron in Alabama. Armes, Ethel, The University Press. Cambridge, U. S. A. 1910. pp. 27-28.

²Ibid. p. 84.

³Ibid. p. 66.

⁴*Alabama in the Fifties*. p. 50 by Minnie Clare Boyd, Ph.D. 1931 Columbia University Press.

⁵*History of Alabama*, Moore, A. B. p. 284. See also *History of the Cotton Textile Industry of Alabama, 1809-1950* by Dwight M. Wilhelm, Montgomery, 1950.

plant. For many years it was one of the few plants in the world engaged in the manufacture of cotton gins. It is still operating both at Prattville and at Birmingham as the Continental Gin Company, with members of the Pratt family still active in the management. Since the cotton gin factory consumed only a part of this water power, Daniel Pratt turned his attention to the manufacture of water-wheels and other metal products, as well as the spinning of cotton and wool into yarns. This cotton mill is still standing on the east bank of Autauga Creek. Daniel Pratt was a pioneer of industry of many kinds in the South. His life was the subject of a Newcomen Society address by Merrill E. Pratt, on December 13, 1949, under the title, "Daniel Pratt, Alabama's First Industrialist."

One of the most important early cotton mill developments in Alabama was at Tallassee Falls on the Tallapoosa River, where there is a natural fall of some sixty feet. According to Virginia Noble Golden: "The mill at Tallassee was the second to be established in the state for the manufacture of cotton cloth; the first was the Bell Factory in 1832, on the Flint River north of Huntsville. Although the Cabaniss Company of Huntsville had a mill as early as 1818 it manufactured only yarns. The Tallassee Mills, however, have the distinction of being the oldest mills in Alabama in continuous operation since their founding."¹

First machinery for the mill was bought from the iron works of Daniel Pratt in Prattville.

By 1860 there were water wheels in nearly every part of Alabama, with a total capacity running into thousands of horsepower. There were numerous steam plants, too, using coal, waste heat, or wood for fuel. The handicraft civilization was giving way to the machine age in the South as elsewhere when the "tragic era" interrupted. Few of the plants survived the War Between the States. By the turn of the century many water wheels were operating again in Alabama, but for the most part they were small installations and their business was the old one of pioneer days,—grinding wheat and corn, ginning cotton, sawing timber.

¹*A History of Tallassee*, by Virginia Noble Golden; published by Tallassee Mills of Mount Vernon-Woodberry Mills, Incorporated, 1949.

Industry, which was the only answer to the South's relative poverty, was developing but its great impact was yet to be. It was a lesser percentage of the nation's total in 1900 than at the beginning or the middle of the century. The value of southern manufacturers at the beginning of the twentieth century was \$1,184,400,000.

There was progress, though, and evidence of the trend which might give back to the South some of its industrial rank of 100 years before. The names of Daniel Pratt and Henry DeBardeleben in Alabama, of Wash and Buck Duke and Moses and Caesar Cone of North Carolina, were in current history as industrial pioneers. Birmingham had been born and had become an object of national financial and industrial attention because of the development of pig iron manufacture out of the red ores of Jones Valley. Atlanta, gone with the wind of Sherman's fire, had begun its new economic life as the site of southern branches and offices of northern manufacturing companies. In Florida the discovery of phosphate rock and an era of railroad building under Henry M. Flagler had brought a boom anticipatory of others to come. Transportation was being spoken of as the key that would unlock the doors of the North to the products of the South, make possible a new industry and a multiplied and diversified agriculture. The historic swing of the textile industry from New England to the South had begun, with active spindles in the South increased from 561,000 in 1880 to 4,369,000 in 1900,¹ of which about 10 per cent were in Alabama.

Industry was budding as 1900 dawned but politics was in flower. Just completing my law studies at the University of Alabama, I remember the battles of the politically turbulent nineties, the bourbons, radicals, populists, and events leading to Alabama's historic constitutional convention of 1901. Nothing could have been more indicative of the economic condition of the South—the dominance and poverty of agriculture—than the swell of populism and Bryanism in that last decade of the nineteenth century.

¹*The South: Its Economic-Geographic Development*, by Almon E. Parkins, 1938, John Wiley & Sons, Inc., New York; Chapman & Hall, Limited, London, page 413.

CHAPTER THREE

THE LIGHTNING WAY

IT is proper that there should be members of the Newcomen Society in Alabama and other southern states, for nowhere has there been more dramatic evidence since 1900 of the forces which the "society of machines" represents.

The South was too poor and unattended after Appomattox to participate in the industrial revolution which was going on elsewhere in the United States during the last half of the century and which was powered mostly with steam. Consequently, when the revolution did come to these states after 1900 it came with benefit not only of steam but of two new powers which had been added to steam—the power of gasoline explosion and the power of electricity.

Both of the two new powers were decentralizing ones, where steam had been a centralizer. The pressure of a foot on an automobile pedal can send a commercial or passenger vehicle almost anywhere from almost anywhere. An electric charge can turn wheels and close circuits and carry sound anywhere from anywhere.

As decentralizers, electricity and gasoline have contributed, we may believe, to the political, moral, social and economic situations which have made the South the most individual part of the nation in its thinking and acting. When I recall my boyhood in Scottsboro and look about me now, I am as aware of this persisting—and, I think, finely American—individualism as I am of the enormous material advances.

At the turn of the century the productive pursuits of the people of Alabama were still almost wholly agricultural. And it was agriculture at its worst, under the crop lien and tenant farmer system.

Thoughtful men knew that such a system could not continue indefinitely. There was need of new forms of employment. Alabama had been richly endowed by nature with natural resources, but in 1900 these were almost untouched.

Labor was untrained, water power was undeveloped, and there was insufficient capital to launch large scale enterprise. The majority of the people eked out a miserable existence from the soil, without benefit of the new techniques and equipment then coming into use. By any standard Alabama was a poor state.

To no other part of the country could the way of electricity, the lightning way, offer more.

The first practical use of electricity in Alabama was at Anniston in April, 1882, by the Woodstock Iron Company, for lighting furnace operations and streets of the mill community there. It was an auspicious occasion. Among the many there to witness the event was the editor of the *Selma Times Journal*, on April 29, 1882, who wrote:

"Upon Monday night the plan of lighting the City of Anniston by the famous electric light was first put into operation. It was a magnificent success. The globes were suspended upon the flag staff above the mill community by wires, with the engine in Furnace No. 2. When the light first appeared, it seemed to be struggling hopelessly with the darkness but continued to increase as more steam was put upon the engine, until a broad, beautiful stream of light flooded the surrounding space with a soft, mellow radiance covering a radius of more than 400 yards. It was not dazzling nor brilliant, fitful nor glaring, but soft, gentle, harmonious. Imagine the light of five thousand candles concentrated within a powerful reflector and placed upon the belfry of the Court House and a very good conception of the character and effect of the electric light at Anniston can be had."

In January of 1883, Ignatius Pollak installed a small Brush dynamo which furnished electricity for thirty-one street lights in Montgomery. A few business establishments also installed electric lights. A significant announcement in the *Montgomery Advertiser* for November 22, 1883, cautioned:

"As the number of lights here (including city lights) is limited to eighty-six, it would be advisable for parties who wish to secure the light to arrange without delay."

On January 5, 1886, Elyton Land Company began operating a small electric plant at Birmingham, which was the

first public utility electric plant in Alabama. There was some opposition to electricity in Birmingham at first, especially when it was proposed for use by street railways. The *Birmingham Evening News* on November 5, 1888, painted a frightful picture. Its editor declared that

"Overhead electrically charged wires to propel dummy trains are deemed more deadly and dangerous in a luckless city than yellow jack in a town that opens trenches or graveyards in its midst in mid-summer."

At this period "yellow jack" was supposed to come from "open trenches;" and it remained for a distinguished Alabamian, William Crawford Gorgas, to prove conclusively that the *stegomyia* mosquito was the carrier from person to person.

Regardless of opposition, use of electricity increased in Birmingham. Within two years after this editorial was written, the electrical engineer was rapidly perfecting the art of transmission of electricity at high voltages, making it increasingly safe for the public to use light and power.

In July of 1886, Thomson-Houston Electric Company contracted with the city of Selma to install a system of arc lights on city streets and furnish the power to light them. A plant was built and two dynamos, powered by a 90 horsepower steam engine, installed. When the lights appeared on the night of August 3, 1886, people from many parts of the Black Belt swarmed to see this phenomenon. The *Selma Times Journal* reported "wonderment expressed particularly by the Negroes, who conceived it to be some sort of white man's magic."

Even in the large cities in those early days street lighting was on a "moonlight schedule." The lights were turned on when the moon was not shining. In most of the smaller towns current was not available to residential customers before sundown or after 11 P. M. It was customary to "wink the lights" twice before the electric current was turned off for the night. In some towns the electric plant would operate all day Friday so that customers could do their ironing¹ and use other appliances which were beginning to appear.

¹The electric flat iron was invented by Henry W. Seely, of New York City, on June 6, 1882.

Service was subject to frequent interruption. In Dothan, for example, the boilers were fired by cordwood, and there was inadequate space for storage of this fuel. Frequently the wood ran out before scheduled closing time, and it would be necessary to close down the plant until the supply could be replenished. Fuel supply was a problem not only at Dothan but at many other places. Most plants had only one generator. Spare parts were rarely available, and when any difficulty developed it was necessary to close down completely for repairs.

Electric plants were installed in other towns in Alabama before the turn of the century. Opelika obtained a small plant in 1890. In 1887, one was built at Florence, perhaps the first in North Alabama, but it was forced to close during the panic of 1893 when the city was unable to pay for lighting the streets, and never re-opened.

There was an electric plant at Fort Payne for a short time during the boom days there.

Towns that were fortunate enough to have hydro-electric plants rather than steam plants were not concerned with fuel supply, but they had their problems and interruptions. At Dadeville, hours of operation as well as voltage were to a large extent dependent on flow of Big Sandy Creek. It was no rare occurrence for the spring rains to fill the flume with sand. In such cases it was necessary for men of the town to turn out with pick and shovel and devote at least one day to removing the sand so that the turbines could turn again.

Goodwater, with its plant on Hatchett Creek, had its troubles in the fall. The first autumn freshets brought thousands of eels downstream and so clogged the turbine that service was frequently interrupted, and at times stopped entirely. Installation of "eel guards" never succeeded in solving this problem entirely. The operation of this plant too, was in direct relation to the flow of the stream, as there was no provision for storage of water.

* * *

It was for another use of electric power that Montgomery pioneered. There in 1886 was launched the first electric railway system (Richmond and Baltimore claim theirs were first). It was locally known as "The Lightning Route." Regu-

lar service was established at 10:00 A. M. on April 15, 1886.¹ The *Montgomery Advertiser* announced:

"People who prefer The Lightning Route to the Texas Mules can make the change this morning on the Court Street Line."

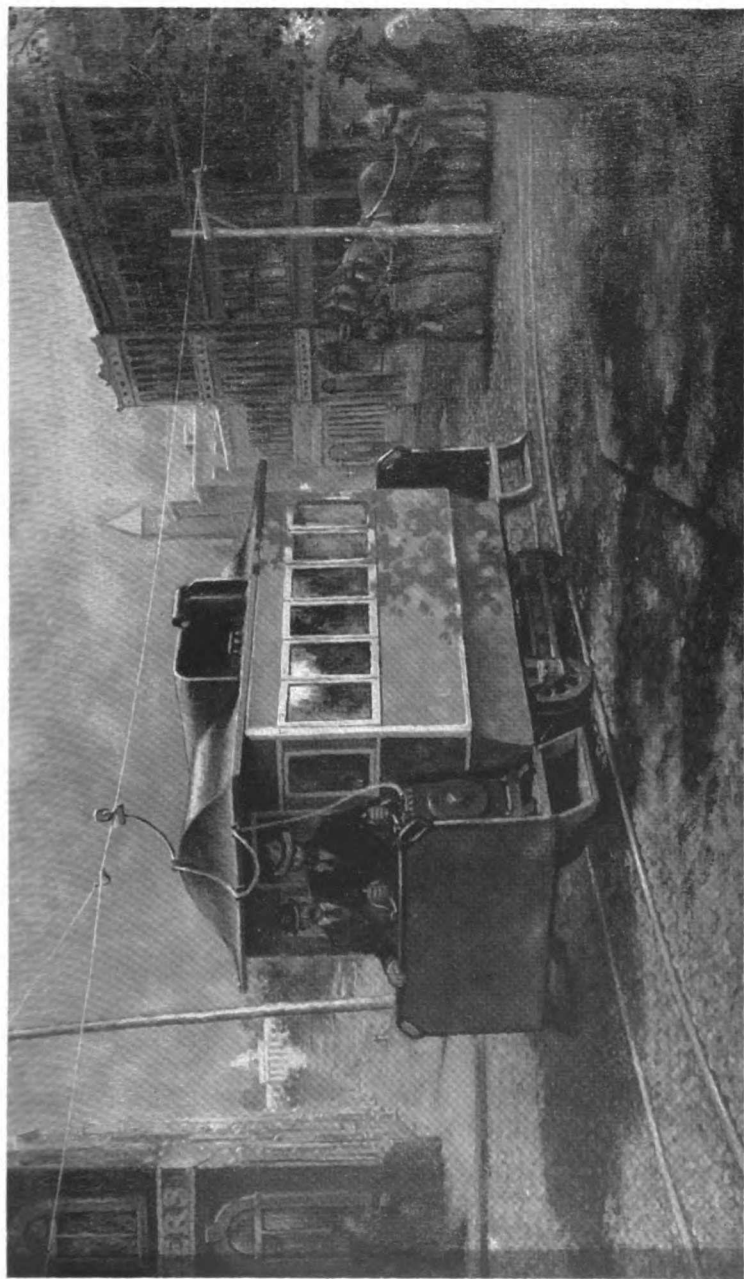
This substitution of the electric motor for animal power for street cars was as great a forward step sixty-six years ago as the commercial use of energy from the atom would be today. It marked the real beginning of the electric power industry as distinct from lighting. It was the first case where, through the medium of electricity, energy was successfully distributed from a central source and used for commercial purposes other than lighting.

* * *

The dynamo to produce the electricity, the transmission line to carry it, and the electric motor to utilize its power for transport, for industry, for commerce, — here were the three agencies of modern electric power in unison. Here was the lightning way complete.

Before electricity there had been no means of distributing energy because of the inherent limitations of mechanical drives and the expensive and impractical machinery required for development of small amounts of energy. Now it was a relatively short step to apply motors to other jobs requiring mechanical energy. Factories would be freed from restriction as to location. No longer would it be necessary for every cotton mill to be located on the bank of a stream, with consequent congested districts while other areas pursued a one-sided agricultural life. Mills and factories would be able to locate almost anywhere, taking advantage of favorable labor, transportation and other factors, bringing industry to areas once entirely agricultural. The sociological and economic consequences were destined to alter the course of American civilization, and happily. The high-speed electric elevator of today makes possible the modern skyscraper, without which the development of our larger cities would have been much different. Many of the conveniences of modern life, not themselves electrical, owe

¹The *Electrical World*, August 14, 1886. cf. *The Lightning Route*, by Thomas W. Martin, published by Alabama Power Company, March, 1936.



This is a reproduction of an oil painting by James Calvert Smith, one of a series of "America First" paintings by him. It first appeared in the March, 1942 issue of *Steelways* to illustrate the historic clandestine midnight trial of the nation's first commercial electric street railway on March 25, 1886. The historian comments that the owners "could hardly be blamed for refusal to risk mishap or public ridicule in broad daylight." Regular passenger service was established on "The Lightning Route" April 15, 1886. Mr. Smith first learned of this event while a cartoonist on the *Montgomery Advertiser* in 1904. When 30 years later he became interested in putting on canvas in pictorial form some of the nation's historical events, he selected "The Lightning Route" as one of the subjects. (Original painting in Alabama Power Collection).

much to this pioneer street-car system which first put electricity into harness. The modern low-priced automobile exists because of mass production and the manufacturing economies which accrue from unrestricted choice of location with an eye for raw materials and markets. Probably it could not have been produced without industrial electrification. And since the gasoline engine, developed to a high state of perfection for the automobile, made possible the motor truck and the passenger bus, the Montgomery street railway, though dead, lives on. It may be said that it created the device which displaces it. The bus system owes as much to electricity as did the original railway.

Not only did the electric motor supplant mechanical drive in factories; it created many of the conveniences of modern life. From the hair-dryer on milady's dressing table to the pump at the farm well, electrical appliances of every type have become available to rich and poor, lifting countless burdens from the shoulders of men, adding countless boons to living.

The pioneers of the Montgomery street railway encountered serious difficulties in applying electricity for the first time to traction. The difficulties, largely technological, seemed almost insuperable for a time, but were overcome by persistence and engineering ingenuity.

General industrial use of the stationary motor followed within a few years commercial electric railway operation. In 1888 at a convention of the National Electric Light Association, complete statistics on the operation of electric railways seemed to be available but, in commenting on the stationary motor business, the president of the Association stated that it was impossible to collect reliable information, adding that it was known that there were "single factories employing no less than 1,500 hands each in the manufacture of electric motors. . . ." Most of the discussion of stationary motors was in the nature of a prediction.

Isaac Lippincott's *Economic Development of the United States* reviewed the developments of the telegraph in 1850, its application to stock tickers and burglar alarms in 1860, the development of the telephone and electric lighting in 1880, the general expansion of the electric railway in 1890, and then "in 1900 the unprecedented adoption of the motor for power transmission, factories, etc. . . ." Apparently the electric rail-

way had been in commercial use for nearly a decade before the general adoption of the electric motor for industrial use.¹

• • •

In 1896, Henry C. Jones, J. S. Pinckard, Jack Thorington and associates, citizens of Montgomery, conceived the idea of harnessing and developing a power site three miles above Tallassee Falls on the Tallapoosa River. This was the first hydro-electric plant in Alabama and was completed and placed in service November 11, 1902 by Emerson McMillan and Company, a banking and operating group of New York who had been brought into the situation by the Montgomery people. This group was succeeded in ownership by Henry L. Doherty, an electrical engineer of great vision. It had a capacity of 8,500 horsepower, and a 33,000 volt transmission line twenty-five miles in length to deliver power to Montgomery. The plant was a large one for the period, in excess of existing requirements. The transmission line was the first long distance line erected in Alabama and one of the first in the United States.

Eagerly, now, other cities and towns called for electricity. No less than thirteen small hydro-electric plants were erected in the next few years. Planned to serve community needs, these smaller plants had little if any surplus capacity and could not with any assurance of success invite large commercial or industrial consumers to use electricity. Their life was short. All but three were destroyed by nature or abandoned in the 1920's with the coming of electric energy from large central station plants.

• • •

Rates for electric service were high in those days. Many communities had a "flat rate" or a fixed charge for each "drop." In Tuscaloosa, the charge was \$1.00 per month for each 16 candlepower light, \$1.50 for each 32 candlepower light. In many of the towns the customer was required to buy and install the meter. The meter rate was high. In Eutaw it was 18 cents per kwh, and at one time 22½ cents per kwh. This compares with the average rate of 2.07 cents per kwh for urban residential service in Alabama, which prevails in hundreds of communities large and small served by Alabama Power Company.

¹*The Lightning Route*, by Thomas W. Martin (March, 1936).

Among its customers Alabama Power Company has many an "average family" which uses 1,000 kwh per month at a cost of \$13.10. In 1912 the same quantity of current would have cost the user \$120.00 in Tuscaloosa. In Tuskegee or Sylacauga, the bill would have been \$150.00 while in Eufaula the cost would have been \$225.00. Thus, since 1912, electricity, once regarded as a rich man's luxury, has become the average man's necessity. In Tuscaloosa in 1912, the industrial load consisted of one 7½ horsepower motor located in a blacksmith's shop.

With rates high, service irregular and voltage variable, it is not surprising that few appliances were used in those days. Nor was electricity much used in industry. The capacity of the small local electric plant was usually taxed to supply electric current for lighting. There was little or no power available for industrial use and no surplus capacity for industrial expansion.

Early plants were all built by private capital, but after the turn of the century many of the smaller towns in Alabama constructed municipally-owned electric plants to furnish light and power for their localities. With few exceptions these were powered by steam engines. Most of the ones established between 1900 and 1912 never operated at a profit, consistently lost money, though they paid no taxes, obtained most of their fuel free for the hauling in many cases, limited their hours of operation mostly to the daytime, and charged very high rates. Often the municipality had to subsidize the operation of the electric plant by appropriations from other funds. One town, Fort Deposit, developed a unique scheme to meet the operating deficit of its municipal electric plant. It established a municipally-owned whiskey store and used the profits to finance the plant. The plan worked well financially until the state went dry. Shortly afterwards, the electric plant went out of operation.

These local plants, with all their limitations, inconveniences and irregularities, represent an important chapter in the history of the electric industry in Alabama. It was the era when people had electric lights but kept their kerosene lamps for an emergency. The day had not yet arrived when appliances would be in general use and when the streams and coal fields of Alabama would furnish dependable electricity for farms, homes, industries in boundless measure and with economy and unfailing supply.

The census of 1905 gives 310,851 horsepower as the total rated capacity of these plants.¹ But the nature of the plants and the limited availability of the power were such that the total represents in terms of present day dependable electric power, about one-tenth, or something like 30,000 horsepower. This is to be compared with approximately 3 million horsepower employed at the beginning of 1950 in the Company's service area in Alabama.

The "lightning way" was greatly indicated for Alabama, but was yet to come.

¹Census of Manufactures, 1905, p CCXXII. In 1905, 2,129 steam engines accounted for 280,470 hp. In addition, there were 77 gas engines developing 472 hp., 73 water wheels generating 9,518 hp. and 296 electric motors accounting for 8,666 hp. In addition, there were in use 1,488 electric hp. rented and 94 hp. unclassified.

CHAPTER FOUR

THE COOSA, THE TALLAPOOSA AND THE TENNESSEE

IN the larger sense, Alabama Power Company was evolved rather than founded. The evolution began in 1900 and ended in 1911 when the Company was actually launched.

Throughout this period certain men of vision were projecting on paper the development of water powers on the magnificent streams of Alabama. They saw great waters going to waste, power of which was capable of the industrial development of the state and the enlargement of individual living. They saw, too, how problems of transportation might be lightened if these rivers were made more navigable.

Their attention was directed to power inherent in the falling waters of three streams with Indian music in their names, the Coosa, the Tallapoosa and the Tennessee.

The Coosa River group had Captain W. P. Lay for its moving spirit.

In the Tallapoosa River group were Henry C. Jones, J. S. Pinckard, Massey Wilson, H. C. Baker, Frank S. Washburn and the writer.

The Tennessee River group was headed by Frank S. Washburn and associates.

A fourth group, overlapping the others somewhat in personnel, was led by Reuben A. Mitchell and his brother, Sidney Z. Mitchell. These two men were destined to be important factors in events to follow.

Each of these groups organized corporations to develop hydro-electric power on various rivers and streams. Eventually most of the corporations (and others as well) found their way into the present-day Alabama Power Company or were affiliated with it. Only one ever generated electricity. All owned undeveloped dam sites.

The first of these corporations destined to become part of Alabama Power Company was launched by the Tallapoosa River group and included my Montgomery law partner, Mas-

sey Wilson, and me. It was organized in 1900 by James S. Pinckard, Henry C. Jones and Jack Thorington under the name of The Cherokee Development and Manufacturing Company to develop water power on the Tallapoosa (a non-navigable stream), and to transmit and sell power to the public within 100 miles of the generating plant of the Company. The capital stock was \$50,000.¹

This Cherokee Company owned a dam site on the Tallapoosa which is the location of present-day Martin Dam.

Significant of the ambitions of the incorporators, the name of the Cherokee Company was changed, May 27, 1907, to "Birmingham, Montgomery and Gulf Power Company," the first hint of a statewide power system that would cover much of Alabama. The transmission limitation of 100 miles was removed in this amendment. I must add that my interest as well as my imagination were deeply aroused as Massey Wilson and I prepared this amendment.

* * *

The Coosa River group began its incorporations with the organization of Alabama Power Company on December 4, 1906, by Captain W. P. Lay, Earl Lay, and O. R. Hood, all of Gadsden. Two years later the same three organized Alabama Power and Electric Company, on November 14, 1908.

Wetumpka Power Company was organized on March 20, 1908, by M. Hohenberg, F. W. Lull and Charles C. McMorris and associates, all of Wetumpka, Alabama.

Alabama Electric Company was organized on October 15, 1908, by Henry Horne, of Macon, Georgia, W. H. Taylor, Autaugaville, Alabama, T. J. Carling, Macon, Georgia, and Gabriel R. Solomon and P. H. Norcross, of Atlanta, Georgia.

There were also the Horne-Wadsworth interests. Henry Horne, J. B. Wadsworth and others owned lands or water rights for a dam site at a point on the Coosa known as Duncan's Riffle, now the location of Mitchell Dam.

The Tennessee River group became active at about the same time when dam sites at what is now Wilson Dam and

¹Acts of Alabama, 1900-1901, page 201.

Wheeler Dam were acquired by Muscle Shoals Hydro-Electric Power Company, incorporated on October 10, 1906.

This Tennessee group, having in mind an increase in primary power on the Tennessee by means of water storage on the Tallapoosa, also organized Alabama Interstate Power Company, to coordinate a storage development at Cherokee Bluffs on the Tallapoosa with run-of-river plants on the Tennessee at Muscle Shoals. They were ahead of the times in this thinking but failed to appreciate the importance of the Coosa to such a plan. Subsequently, when James Mitchell and his associates secured control of the Coosa group in 1911-12, the plan was developed to coordinate run-of-river plants on the Coosa, rather than the Tennessee, with Tallapoosa storage and with large steam plants in the Alabama coal fields.

The problems which faced these various groups in their ownership and contemplated development of dam sites on the rivers of Alabama made great argument for eventual unification. Diversity of ownership necessarily restricted dams to such a height as would not cause backwaters to encroach upon any dam site upstream of another group. This was one of many difficulties, physical and economic. Even if it had been possible for the various owners to secure the necessary capital to proceed, it is doubtful whether the developments could have been economically profitable because markets remained to be developed. Such independent developments would have destroyed the ultimate greater possibilities.

A first step necessary to obtain the capital for hydro-electric developments in Alabama on the wide scale indicated, was the enactment of laws which would protect the public and the investor. Prior to 1903, all water power installations in the state were built under provisions of the so-called Mill Dam Statutes, which were first enacted in 1812 by the Mississippi Territorial legislature. These governed water power developments on non-navigable streams. Enacted generations before hydro-electric power was dreamed of, they remained for the most part unchanged until 1903. In that year the legislature of Alabama enlarged the statutes to include plants for the generation of electricity by water power.¹

But no laws, either state or federal, authorized a hydro-electric development on a navigable stream. On the contrary

¹Acts 1903, p. 365.

a federal law¹ expressly forbade the construction of a dam on any navigable waters of the United States without the consent of Congress and until plans had been approved by the Chief of Engineers and the Secretary of War.

Soon after Alabama Power Company was organized in 1906 by William Patrick Lay, he sought the consent of Congress for the Lock 12 development on the Coosa River. Congressman John D. Burnett, of Gadsden, sponsored and secured passage of an act of Congress entitled: "An Act Permitting the erection of a dam across Coosa River, Alabama, at the place selected for Lock Numbered Twelve on said river." By this act the consent of Congress was expressly granted to Alabama Power Company.

The act was approved by President Theodore Roosevelt on March 4, 1907. It carried the special condition that the work should begin within three years and be completed within seven years of the date of approval. These conditions were met. The work was both begun and completed within the specified periods as the following chapters will show.

Although not fully realized at the time, this act of Congress had historic public importance. It made possible power development in Alabama on a large scale. A number of our citizens, including this writer, who realized the importance of electric power to the development of the state, undertook to secure state legislation which also would permit the development of power on navigable streams. Two acts were passed amending the inadequate laws of 1903. The first was approved by Governor Braxton Bragg Comer on March 6, 1907, two days after the approval of the act of Congress consenting to the construction of the dam at Lock 12.²

The second act, approved by Governor Comer on March 12, 1907³ removed the restrictions of the act of 1903, which limited its application to non-navigable streams.

The two acts of 1907, further extended in the Code of Alabama of 1907,⁴ have been construed and upheld time and again by the courts of Alabama and the Supreme Court of the

¹34 Stat. at L. 1288.

²Acts 1907, p. 358, cf. Code 1940, Tit. 38, Sec. 116.

³Acts 1907, p. 439.

⁴Sections 3627-3637; Sections 6148-6150.

United States. They have remained the law of the state practically without change since 1907; a tribute to the foresight and statesmanship of those who advocated them and to Governor Comer, who approved them. Without these laws it would not have been possible to develop the water powers of Alabama. They enabled the owners of the undeveloped dam sites to promote their development and to offer a proper measure of security to prospective investors.

* * *

But even with such enabling legislation the necessary venture capital had to be found. Dramatic and difficult efforts followed for the entrepreneurs. The several groups proceeded for the most part separately, while some of the most experienced engineers of the period were employed to examine their situations and plan their development.

Prior to 1911 funds had not been found to complete a dam at any of these sites in Alabama. The Lock 12 site of Alabama Power Company was the only project authorized by both federal and state laws, and the company had long since exhausted its slim capital of \$5,000. Captain Lay and his associates had borrowed large sums for surveys, land, preliminary construction, purchases and efforts to obtain capital. Construction of a dam was begun in 1910, but to finance completion and the power house structures, required capital which, apparently, would have to be obtained by the sale of securities to the public. For more than five years Captain Lay and his associates and the other groups of Alabama citizens, devoted themselves without success to the search for funds. Time was running out, for Congress had stipulated that the work must be completed within seven years and that would be March 4, 1914.

It was then that there came about the fortuitous meeting which was to set all things in motion and prove again what a place destiny and the individual have in the mightiest marches of time. Describing it years later, Captain Lay wrote: "I started out with a choice as to where I might have to get the money, and this choice was, first, Alabama; second, the South; third, the United States; and fourth—anywhere. My finances became so exhausted that I got some friends in with me who spent several years in this work in New York and other parts of the country, and meanwhile, I journeyed North, East, South

and West presenting my plans to anyone who would give me the opportunity—but with no success. . . . ”

“Finally,” Captain Lay wrote, “I succeeded in getting in touch with Mr. James Mitchell. . . . ”

It was a name to conjure with.

CHAPTER FIVE

A THOUSAND COOLIES

WHEN James Mitchell came to my law office in Montgomery in November, 1911, I could not have foreseen the long association I was destined to have in developing the water powers of Alabama. He was a man of about five feet ten, weighing about 180 pounds, in his early forties. Pleasant and agreeable and of great personal charm, he knew the elements, physical, political, human, to be weighed in reaching a conclusion as to whether to undertake power developments in Alabama. Our discussion first was concerned with the policies of the state towards capital and he was impressed by the invitation so frankly extended by the legislature in the series of laws enacted in 1907.

His experience in many parts of America, in Brazil, England, Japan, had given him rare opportunity at his age for forming opinions and quick conclusions. He had just returned to America after many years of electric power activities in Brazil and some recent months in Japan given to studying hydro-electric possibilities for the London banking firm of Sperling & Co.

James Mitchell¹ was one of those rare individuals who could dream dreams and translate them into reality. He was born in Canada on June 19, 1866. His father moved with the family to Massachusetts in 1881, where he became a citizen of the United States and here James and the other members grew up. The elder Mitchell lived to see his sons, James and William E., win their ways on merit to important places in business, industry and finance. William E., at the time of his retirement in 1947, was president of Georgia Power Company.

When James graduated from the public high school of Milton, Massachusetts, in 1882, with an inclination to the rapidly developing science of electricity, he went to work for Charles L. Bly, of Boston, a firm which built electrical

¹Picture in section following page 32.

instruments and was doing a great deal of experimental work. Two years later he was employed by the Thomson-Houston Electric Company at Lynn, predecessor of General Electric Company. His aptitude for experimental work, as well as his ability to use a lathe, brought him to the attention of Professor Thompson and E. W. Rice and he was advanced rapidly to instrument maker, tool maker, and then foreman of the department that built the first railway motors. Shortly thereafter he found himself in charge of the entire railway department. As he told me years later, he sought a job with the Thomson-Houston Company, and found his whole life's opportunity and direction. Mitchell traveled over the country installing the new electric railways or straightening out their troubles until about 1890, when Thomson-Houston Company, wanting a man to represent them in Brazil and install a special electric railway line up a mountain near Rio de Janeiro, selected him for that job. After several years in Brazil for the Thomson-Houston Company and its successor, General Electric Company,¹ he resigned and undertook power and railway installations on his own account.

He installed the first electric street railway system in Rio de Janeiro. He sold and installed small steam and hydro-electric plants at many places throughout Brazil. His most important work was as general manager of Sao Paulo Tramway, Light and Power Company, 1900-1905, and as organizer with Sir Alexander McKenzie of the Rio de Janeiro Tramway, Light and Power Company in 1905.

He remained in Brazil 17 years, learned to speak both Spanish and Portuguese fluently, and made infrequent trips to London and New York. Brazilians still talk of him as one of the great Americans who not only helped to build their country but who, with fair dealing and sympathetic understanding of their ways, did much to cement bonds of friendship between his country and theirs.

In 1907 Mitchell left Brazil for London. He was 41 years old and said he was through with pioneering. After a year of rest and travel he became associated with Sir Edward Mackay

¹General Electric Company came into existence on April 15, 1892, the result of the consolidation of Thomson-Houston Electric Company and Edison General Electric Company. Men and Volts, page 193.

Edgar of Sperling & Co., a reputable old London investment banking house. He was no longer an industrial pioneer, but he was to become as great a pioneer with what made industry—organization and finance.

In 1910 he went to Japan for Sperling & Co. to study the possibilities of hydro-electric development. There, one of the first sights which greeted his eyes was a thousand Japanese coolies manually lifting a weight which a 100-horsepower electric motor controlled by one man, could have lifted. He learned that even though their pay was only a pitiful few cents a day, they seemed satisfied with the low wages and hard toil. That settled the matter for him insofar as his mission was concerned. He returned to London a few months later and told Sperling & Co. it wouldn't work. Investment in costly hydro-electric development in Japan at that time would not be sound business because of the necessity to compete with human labor at these almost unbelievably low wages.¹

Those Japanese coolies—a thousand of them lifting what one man with an electric motor could have lifted—were in James Mitchell's mind when I met him first in Montgomery a few months after his return to America. He spoke of them often, in after years. There was a sermon in them which he was destined to preach and, even more, to practice all his life, and it was a sermon in favor of the course he had taken years before when he had gone to Thomson-Houston Company for a job and found his life work. Electric power was man multiplied, and because of that, electric power could be man glorified, lifted from poverty and from acceptance of poverty to undreamed of standards of living and of human welfare.

When James Mitchell returned to America in 1911 after his years in Brazil and Japan and London, he was one of the most experienced men in the world of electric power development. And he was well acquainted with the leaders in that field. He announced his intention to spend the remaining years of his life in Alabama.

¹Quick to take advantage of Western ideas once introduced, Japan increased its total electric horsepower six-fold in the period from 1921 to the beginning of World War II, or about 6,000,000 horsepower.

CHAPTER SIX

ALABAMA POWER

BEFORE his call at my office in November, 1911, James Mitchell had visited Georgia to study the power potentials of the Savannah River, especially at that still controversial site known as Clark's Hill. The development considered at Clark's Hill would have been surpassed in size only by our Jordan Dam of today, but it was not a feasible project then, and Mitchell had reported unfavorably.

He came to Alabama thereafter as a result of suggestions by George Westinghouse, Paul Brady and perhaps others. He visited the Cherokee Bluffs site on the Tallapoosa with several of those interested there, and then made his appearance at my law office in Montgomery. I represented several of the hydroelectric companies with Tallapoosa River sites.

I went over the situation with him and we again proceeded to Cherokee Bluffs together.

He was favorably impressed with the dam site and secured options from the owners.

In his subsequent extensive examination of the Alabama situation Mitchell was concerned not only with such matters as watersheds, river flow and present and prospective power markets, but also with federal and state laws and policies. When he had been assured that adequate legal protection was afforded investors and had digested the various reports and surveys prepared by owners of dam sites, he set out to study the sites at first hand. He and Captain Lay and I, with other citizens of Alabama, explored the rivers of the state, travelling by horse and buggy, with much foot-work at the scenes.

Captain Lay had executed an option on his Coosa holdings to another group. But unhappy experience had schooled him to the possibility of disappointment; so he invited James Mitchell to look over the Coosa situation with a view to developing projects there if the other group should fail to ex-

ercise its option. A second option contingent on the first was arranged.

As Mitchell and his associates began to perfect their plans for financing and developing hydro-electric sites in Alabama, they were confronted with the fact that some fifteen corporations had acquired dam sites, riparian rights and lands at practically every point that offered possibilities of economic development. Mitchell was convinced that it would be impossible for these sites to be developed separately, and that the conflicting interests must be consolidated if he was to carry out the broad and comprehensive plan which he had in the making and which, in part, had already been formulated by the Tallapoosa group and separately by the Coosa group. He took options on various other dam sites and power projects. He would buy the Lay-Hohenberg and the Horne Companies, trade with R. A. and S. Z. Mitchell for their properties, acquire the Washburn-Baker interests. Then he would bring the sites to development in logical sequence and create a statewide system which would be expanded into a southern system.

There is no record to indicate that anyone had ever made so bold a plan. It was the pattern for the thinking of Mitchell and his associates for years to come. The conception was reduced to a map and used with a prospectus shortly to be issued in England by Sperling & Co.

To finance the beginning of the plan was a large undertaking. Possibilities of interesting American capital were explored, with the same results Captain Lay had experienced.

In December 1911, Mitchell sailed for England to lay his plans before his old banker friends, Sperling & Co. of London.

They agreed to underwrite his program.

Because of the difficulty of selling to English investors securities of a company organized in the United States, Mitchell formed a holding company, Alabama Traction, Light & Power Company, Ltd., under the laws of Canada. This company was to hold the common stock of the Alabama companies and in turn sell its own securities in England, Canada, and eventually the United States. It was incorporated on January 5, 1912.

Meanwhile, Leach and Company had first option on the Coosa River properties and were hesitating while their attorney examined the laws to determine if they afforded adequate

protection to the investor. When he reported adversely on the all-important act of the Alabama legislature conferring authority to construct dams across navigable streams, Leach and Company let their option expire at 12:00 noon on February 1, 1912.

As legal representative of James Mitchell, I advised him that the laws were sufficient, as did Captain Lay's counsel, Oliver R. Hood, of Gadsden. Within the hour, Mitchell and his associates exercised their option.

Earlier in the year the group with which I was associated, led by H. C. Jones and J. S. Pinkard, owners of the Cherokee Bluffs site on the Tallapoosa, had agreed to sell their holdings to the James Mitchell group. They included:

Alabama Interstate Power Company
Birmingham, Montgomery and Gulf Power Company,
and the Muscle Shoals Hydro-Electric Power Company,
owning the sites now known as Wilson Dam and Wheeler Dam.

The Horne-Carling-Wadsworth-Hohenberg groups, owning Alabama Electric Company, the dam site at Lock 18 on the Coosa River and a site on the Tallapoosa River, had likewise agreed to sell to Mitchell.

The shares of stock of the following companies were then bought and taken over from Captain Lay and associates:

- (a) Alabama Power Company
- (b) Alabama Power & Electric Company
- (c) Wetumpka Power Company, owning dam sites and other rights on the Coosa River at Lock No. 12, Lock No. 14 and Lock No. 7.

On March 1, 1912, within a month after the option on the Coosa River holdings of the Lay group was exercised, the Alabama Traction, Light and Power Company, Ltd., which had been organized to finance the purchase and development of these properties, executed a mortgage and deed of trust with Montreal Trust Company as trustee, securing an issue of collateral trust bonds. Relying upon the considered judgment of James Mitchell and his Alabama associates, the banking firm agreed that the security was to be the common stocks of the several companies in Alabama which were to be acquired.

Thus, within four months after James Mitchell first came to Alabama, the undertaking was partially financed.

When the several companies of the Lay group were formally taken over on May 1, 1912, there was a brief ceremony in my law office in Montgomery. Captain Lay said to James Mitchell:

"I now commit to you the good name and destiny of Alabama Power Company. May it be developed for the service of Alabama."

Responding, James Mitchell reviewed the comprehensive program, feeling as he did that he could play a highly useful part as an adopted citizen of Alabama in its development.

"Out of this," he said in substance, "should come a new Alabama and a new South, a South that will retain all the finest traditions of its past but which, through the mysterious force flowing silently through the thousands of miles of transmission lines like life-blood to the human body, will grow richer and stronger industrially, and because of this, in turn grow stronger agriculturally. And the chain will lengthen. Not only will the ordinary comforts follow in the wake of electricity, but there will be better educational facilities, better roads, and better homes.

"To make money is all right; to build industry is fine. But to build an industry that saves mankind from toil which it can well be spared, that reduces the labor and drudgery of women, that provides leisure for education and culture—truly is a much finer thing."

On this note and with this challenge our company was born—and was to become a great, living institution, including and surpassing all the individuals on its rolls.

In July 1912, Alabama Power Development Company¹ was bought from S. Z. Mitchell of Electric Bond & Share Company and his brother Reuben A. Mitchell. It owned a 2,000 kilowatt hydro-electric plant at Jackson Shoals on Choccolocco Creek, the distribution system in the city of Talladega, and a high voltage line from Jackson Shoals to Gadsden. At

¹See Reuben A. Mitchell and Sidney Z. Mitchell in Appendix.

Gadsden it had under construction a 10,000 kilowatt steam plant of the most modern design of that period.

Included in this purchase from the Mitchell brothers were Anniston Electric & Gas Company; Decatur Light, Power & Fuel Company; Huntsville Railway, Light & Power Company; Alabama Power & Light Company; Little River Power Company; Etowah Light & Power Company and Asbury Electric Power Company.

As part of this arrangement S. Z. Mitchell for Electric Bond & Share Company agreed to take a percentage of future bond issues of Alabama Traction Light & Power Company, Ltd.

Another confirmation of judgment came when the Company began clearing the site for construction of Lay Dam. The attorney general of Alabama, with the full concurrence of the Company, filed a suit to enjoin construction on the theory that the act of the legislature did not grant the right to occupy the bed of the stream. The Company won the suit in the trial court, and in the supreme court, with a broad opinion sustaining the right.

Alabama Power Company was on its way!

One of the most important steps taken at this time was initiated by James Mitchell and by Frank S. Washburn of American Cyanamid Company, looking to the establishment of a cyanamid plant for the fixation of nitrogen at Montgomery, to use power developed at what was then known as the Lock 18 site (now Jordan Dam) on the Coosa River. Encouraged by the attitude of the public and looking to the future expansion of various industrial activities in Alabama, a bill was introduced in Congress to authorize the building of this dam by Alabama Power Company; it was passed by both Houses but was vetoed by President Taft. In the after years it was recognized as one of the unfortunate mistakes made at that period, because if those concerned had been permitted to build the power and cyanamid plants it would have enabled our government much sooner to meet the nitrogen requirements of the war years to follow. Thus the waters of the Coosa River went on their way to the sea for more than sixteen years before the site was developed as Jordan Dam.¹

To plan for the future, those who had been brought together from within and without the state, met in Montgomery

¹See page 68.



JAMES MITCHELL.



This portrait of James Mitchell by the distinguished artist John Christen Johansen now hangs in the board room of Alabama Power Company's general office building, Birmingham. It was unveiled April 22, 1930, by Kina Marie Mitchell, Mr. Mitchell's granddaughter.



A group of bankers and other distinguished visitors during construction of Lay Dam (1913). Among those in this group are, first row, Captain W. P. Lay, founder of Alabama Power Company; E. A. Yates, now chairman of the board of The Southern Company; Thomas W. Martin; W. W. Freeman; Webb Offutt; Captain Romain Boyd; Clyde Ennis; Culpepper Exum; John W. Sibley; John L. Kaul; P. G. Shook; Frank P. Glass; Harry Jones; T. E. Brooks; Leon W. Friedman. Among those on the platform are Sidney J. Bowie; Senator Oscar W. Underwood; William Ryan; Atticus Mullin; J. D. Kirkpatrick; William P. G. Harding.



in May, 1912. Among those present were James Mitchell, Captain W. P. Lay, Eugene A. Yates, O. G. Thurlow, William E. Mitchell, Reuben A. Mitchell, A. C. Polk, Wiley Alford, Lawrence Macfarlane, W. W. Freeman, Frank S. Washburn and the writer. A twenty-year plan was drawn up to develop 600,000 horsepower at a cost in excess of one hundred million dollars.

What a dream, when coal was selling for 90c a ton at Birmingham! It was a dream that was destined to come true. In less than the twenty years the Company would have installations producing more than 600,000 horsepower. Today it has more than 1,500,000 horsepower.

It took faith in Alabama and the future, great foresight, and a high type of courage, to undertake such a program and carry it to completion. The history of Alabama has many romantic passages, but this man from Massachusetts, who until a year before had never put his foot on Alabama soil, here began a story whose quickly changing aspects and unexpected ramifications could hardly be expected to follow the launching of a mere business enterprise. Here was romance in high degree by this new citizen of Alabama.

Power that had been going to waste through the centuries was to be harnessed and utilized.

Navigation was to be improved, opening new avenues of transportation to a region involving several states.

Industrial development was to be hastened.

Agriculture was to be stimulated, not only by bringing electricity to rural areas, but by bringing in new population with purchasing power for diversified farm products.

All this was based on confidence in the people of Alabama and the potentialities of its resources and faith that capital could be obtained from English bankers who never before had given a thought to investing millions in one of the old cotton states of America.

Surely, it could be said of James Mitchell as of Joseph of old, "Behold, the Dreamer cometh."

I wish to pay a personal tribute to a group of men to whom I shall always stand indebted. I came into the enterprise first through my law partner Massey Wilson; later as a young man of thirty under James Mitchell. Those brilliant men left on my mind an indelible impression and gave me the essentials

which I have followed through these forty years. I command no words which will adequately convey my obligation to them.

In addition to those I have mentioned, there are some who are still active; others have passed on and whose personal friendship and encouragement over the years meant much to me.

I think of Cecil A. Beasley; of Colonel R. A. Mitchell and of Ab Aldridge and his brother Lamar; of Thomas Bragg, Algernon Blair, Al C. Garber and my dear friend William H. Hassinger.¹ Among the many others are B. L. Noojin, Richard Hobbie, Frank M. Moody, Perrin Bestor, Benjamin Russell, Dr. John M. Starke, O. R. Hood; also Richard Thomas who in more than 25 years missed but one of the meetings of the board.

¹See Appendix for brief biographic sketches.

CHAPTER SEVEN

FIRST KILOWATTS AND CUSTOMERS

MOST of the properties acquired by James Mitchell and his associates in 1912 and 1913 were undeveloped dam sites. But among those of Alabama Power Development Company, acquired July 28, 1912, from Reuben and Sidney Mitchell of Electric Bond & Share Company, were two notable exceptions. These were a small hydro-electric plant at Jackson Shoals near Talladega and a 10,000 kilowatt steam plant then under construction at Gadsden.

Jackson Shoals, on Choccolocco Creek eight miles from its junction with the Coosa, had been used as a water wheel power site as early as 1850. The hydro-electric plant had begun operations on August 1, 1911.¹ From power generated there Alabama Power Development Company was serving several hundred customers in Talladega in 1912.

The steam plant at Gadsden was placed in service on August 1, 1913, four days after the company was merged with Alabama Power Company. The power house was of steel and brick construction, and the boiler plant contained six Babcock and Wilcox horizontal boilers, operating at a pressure of 186 pounds with a temperature of 530 degrees Fahrenheit,² standard practice for the time. Current was delivered at 22,000 volts for local distribution and 110,000 volts for power line transmission.

Alabama Power Company first became an actual operating company with customers—the several hundred in Tal-

¹This plant remained in service until 1926 when it was abandoned.

²This compares with the new Gadsden plant completed in 1949, consisting of two units of 60,000 kw each, with two boilers operating at a pressure of 850 pounds with a temperature of 900 degrees Fahrenheit, burning either natural gas or powdered coal. The new Gadsden plant was dedicated at a public ceremony on September 16, 1949. Picture and plaque commemorating it are reproduced in the Appendix.

ladega—when it formally took over this property and business of Alabama Power Development Company on July 28, 1913.

The first direct customers were:

Stephenson Brick Company of Lovick, Alabama, which became the first customer on July 14, 1913;

Anniston Electric & Gas Company, which began buying its electricity from the Company on July 25, 1913;

Standard Portland Cement Company, which began taking service on October 4, 1913; and

Benjamin Russell's Industries Light & Power Company, of Alexander City, Alabama, which began taking service on November 28, 1913.

Those first customers are indelible in our history for the confidence they showed—a confidence in the individuals with whom they were dealing rather than in the special situation at the time.

• • •

The first dam site developed for power by the new company was at Lock 12, on the Coosa, rather than at Cherokee Bluffs, on the Tallapoosa as originally planned. In view of subsequent events it was a wise and fortunate choice.

In 1912, when James Mitchell had decided to build at Cherokee Bluffs it was estimated that a dam there would impound a reservoir of 34,000 acres capable of storing 50 billion cubic feet of water. In the London prospectus announcing the issue of \$6,000,000 of 5 per cent bonds of Alabama Traction, Light & Power Company, Ltd., dated March 1, 1912, the Cherokee Bluffs site was described as

"an exceptionally favourable site for the development of 100,000 h.p. for 10 hours daily, and where the initial installation will be sufficient to produce over 60,000 h.p. At any future time the plant can be rapidly and quickly increased at the cost of power house additions only. The proceeds of the present issue are sufficient to construct the plant for the generation and distribution of 60,000 h.p."

Continuing, the prospectus said:

"Mr. Hugh L. Cooper, the well-known engineer, estimates the average cost of American water power at

about \$225 per h.p. Estimates drawn up by experienced engineers figure the cost of the first Cherokee Bluffs development as only \$83, or about one-third of the above figure."

"Titles have been examined by the law firm of Tyson, Wilson & Martin of Montgomery, Alabama."

Massey Wilson,¹ my law partner, and I, had examined these titles over a period of years.

Several factors had indicated Cherokee Bluffs as the first development. For one thing, it had been the deciding factor with James Mitchell when he determined to operate in Alabama. As the prospectus indicated, he considered that the cost per horsepower would be substantially less than at other sites. Another consideration was that, since the Tallapoosa was a non-navigable stream, it would not be necessary to wait for an act of Congress for permission to proceed with construction.

But from the outset the Cherokee Bluffs development was beset by troubles. At times it seemed destined never to be built.

There was trouble upstream and downstream. In 1911, Industries Light & Power Company, whose moving spirit was Benjamin Russell of Alexander City, had begun construction of a smaller dam on the Tallapoosa at Buzzard Roost Shoals. This was within the area which would be flooded by the proposed Cherokee Bluffs dam. Construction had proceeded as far as installation of a coffer dam, but when the plan was made to develop Cherokee Bluffs, the broadminded Russell recognized the greater public benefit from the complete development of the power of the stream; thereupon a satisfactory agreement was reached with Russell for purchase of his properties and for supplying his enterprises with power. This agreement was carried out to the satisfaction of all parties and through the years Benjamin Russell was a fast friend of the Power Company and of its officials, helpful in many of its problems. He died on December 16, 1941.

It was from downstream that problems arose which were so serious that it was necessary to defer the building of Cherokee Bluffs dam.

¹Mr. Wilson retired some years ago and is living on his plantation in Wilcox County, Alabama.

Eight miles downstream were the dam and hydro-electric power plant of Montgomery Light & Water Power Company. Three miles further was a century old water wheel power plant owned by Mount Vernon-Woodberry Cotton Duck Company at Tallassee Falls.

Mount Vernon-Woodberry Cotton Duck Company and its predecessors had been utilizing the flow of the Tallapoosa River since 1844 for the operation of cotton mills, and more recently for a lighting system in and around Tallassee. They had built a dam with a forebay on each bank to conduct water to the turbines driving the mill shafting. The turbine for the mill on the east bank of the river was located in a power house along with two water wheel driven generators with a combined capacity of only 1500 horsepower. For the greater part of the year, the flow of the river was greatly in excess of the mill company's requirements.

It was obvious that the construction of the reservoir at Cherokee Bluffs would so regulate the flow of the river that the volume of power available at each of these two dams downstream would be greatly increased. In 1907, the Alabama legislature, accepting this principle, enlarged the power of eminent domain by conferring on power companies the right to acquire by condemnation "lands, hydraulic structures, water, or water rights of such cotton factory in excess of what is actually in use, or may be used at normal stages of the stream, for the operation of its plant as already established at the time the condemnation proceeding is commenced."¹ The statute contained a like provision with reference to the power facilities of a public utility.

When a decision was reached to develop Cherokee Bluffs, negotiations were begun with the two companies owning the dams downstream to acquire the right to develop this excess power.

In the case of the Montgomery Company no difficulty was encountered in reaching an agreement, but all efforts failed with the Mount Vernon Company. It was necessary therefore to institute condemnation proceedings.

The Mount Vernon Company contended, among other things, that the use for which the property was to be taken was

¹Code of Alabama, 1907, Section 3627.

not a public one. When lower courts and the Supreme Court of Alabama upheld the law and the position of the Company (186 Ala., 622), the Mount Vernon Company sued out a writ of error to the Supreme Court of the United States. That court in 1916 upheld the law of the state and the judgment of the lower courts.¹ Few cases in the annals of water power transcend the importance of this litigation, either as to issues involved or as to influence on future legislation. Some of the principles laid down in the decision of the Supreme Court were later embodied in the Federal Water Power Act.² In writing the opinion of the court, Justice Oliver Wendell Holmes said:

“ . . . to gather the streams from waste and to draw from them energy, labor without brains, and so to save mankind from toil that it can be spared, is to supply what, next to intellect, is the very foundation of all our achievements and all our welfare.”

The highest court in the land thus fully upheld the right of the Company to use excess water at dams downstream and to convert it to power for public use.

But the 1916 decision came too late for Cherokee Bluffs to become the first major development of Alabama Power Company. In July of 1912 the legal difficulties had advanced to the stage where it was evident that months—perhaps years—would be required to resolve them. It was therefore necessary to postpone the development in favor of some other project which could be immediately undertaken.

Then it was that consideration turned to the Lock 12 site on the Coosa River.

There was much to be said in favor of this site for immediate development. The original capital outlay was estimated at much less than would be required to develop Cherokee Bluffs; of greater importance was the time element. When Congress, by the act of 1907, had authorized construction at Lock 12, it provided that the dam must be completed by March 4, 1914. It was necessary to begin at once in order that the

¹*Mount Vernon-Woodberry Cotton Duck Company v. Alabama Interstate Power Co.*, 240 U. S. 30.

²41 Stat. at L. 1063.

dam and power house might be completed within the time contemplated by the act.

* * *

Work on the Lock 12 site brought to the Company Eugene A. Yates. He was to have an important and significant part in the development of the Company and the integrated southern system. Appointed chief engineer in 1912, he organized the engineering and construction forces for designing and building the Lock 12 project and completing the 10,000 kilowatt steam plant at Gadsden. In the first quarter of 1914, the turbines at Lock 12 were generating power. This plant, later named Lay Dam, has present installed capacity of 110,000 horsepower.¹ Transmission lines were in service between the two plants and a number of cities and towns, including Birmingham. These achievements, little short of magic in our non-professional estimates, gave renewed confidence in the whole enterprise. Even without regard to his later achievements, when the magnitude of this program and the difficulties of the times are considered, the work of Eugene Yates stands in monumental testimony to a great engineer and those he brought to the Company as his engineering assistants, especially Oscar G. Thurlow, S. B. Jones, E. L. Sayers, Armour C. Polk and William E. Mitchell.

* * *

Net earnings of Alabama Power Company from its first year of operations in 1913 were \$26,268.00.²

In October, 1913, the Company issued a bulletin in which is expressed the public attitude of the Company and its employees:

"The Officials of the Alabama Power Company wish at this time to impress on the employees of all departments the great importance of realizing that each employee owes a peculiar obligation. The Alabama Power Company is operating a system to supply service to the public and the success of the Company will depend on the manner in which this service is given and on the treatment which consumers or prospective consumers secure from our employees. The good will and friendly feeling of the public is absolutely necessary and each

¹See picture section in Appendix.

²See Report of Operating Manager for 1914, (Chapter 8).

employee of the Alabama Power Company must feel the responsibility and the necessity of making friends for the Company. We have a department whose duty it is to solicit business for the Company, but in order that we may be successful in our enterprise, each employee must realize that he is just as much a business getter as any employee of the New Business Department."

Thus it will be seen that the "manufacture of customers" was much in the minds of the Company from the beginning.

For a good many years after we began in 1912 it was necessary to outline the policy of the Company with respect to lands and rights-of-way. This required the setting up of a land department with records which could be expanded with the growth of the Company. Excellent work was done in this respect by the first land agent, Bolling R. Powell, and this has been continued by his successor J. G. Hitchcock.

CHAPTER EIGHT

DISASTER KNOCKS TWICE

HOW often in the years since 1914 have we seen great hopes and plans endangered by a distant happening, or the direction of affairs altered by some epochal invention. Those are the years which brought two world wars, the great depression of 1929, the revolution, the automobile, the conquest of the air for war and peace, and the universal and instantaneous communication through the radio. Finally the fateful question mark of atomic fission.

But when the shot was fired at Sarajevo on June 28, 1914, we were not conditioned to crisis. The world had been so calm for so long. It would be hard to conceive a present day turn which could come with such shock as did World War I.

Alabama Power Company was one of the first on this side of the Atlantic to feel the touch. That was in August, 1914, when England joined her allies. The effect was immediately to cut off funds from English investors in Alabama Traction, Light and Power Company, Ltd.

The following is taken from the report of the operating manager of the Company for 1914:

"On January 1, 1914, all power was being generated at the new 10,000 kw steam plant at Gadsden and at Jackson Shoals hydro-electric plant.

"Power was being transmitted at 22,000 V. to Anniston, Jackson Shoals, Talladega, Alexander City, Leeds, Lovick, and Lock 12. We had five customers and our total power generated for the month of January, 1914 was 1,516,000 kwh.

"April 12th the first unit at Lock 12 was put into commercial service, using a temporary bank of transformers and supplying current at 22,000 V. feeding into the system via Jackson Shoals. From this date the Gadsden Steam Plant was run only when required by the exigencies of the construction at Lock 12, but full boiler pressure was maintained at all times and one turbine kept floating on the line.

"July 1st, [1914] our lines were completed to our Magella substation and we commenced service to the Birmingham Railway, Light & Power Company on July 15th.

The last paragraph of this report stated in a matter of fact way:

"August 1st, 1914, due to the European war, practically all new construction work was stopped. The construction organization disbanded September 1st, and all unfinished work was turned over to the operation department to be completed."

Although the dam at Lock 12 on the Coosa had been completed and transmission lines built to Birmingham and other communities, not all the equipment and material had been paid for. The Company found itself unable to meet its obligations to manufacturers and other creditors, or to raise funds to extend transmission lines to new customers or to additional communities that wished to abandon their local generating plants. It could not meet the interest on bonds due in September, 1914. In short, Alabama Power Company faced bankruptcy.

Minutes of the executive committee meeting on August 20, 1914, reveal that the Company needed \$3,646,000 to complete engineering and construction work and for operating expenses. The committee hoped that it would be possible to persuade contractors and creditors for material and machinery to accept notes, payable twelve months later. In order to hold expenditures to the minimum, the minutes recite that while the committee recognized the necessity of connecting new customers, present extensions would be confined to the area adjacent to the towns then having service except in such cases as would warrant a greater effort on the part of the Company.

The minutes of a meeting on October 11, 1914, disclosed the desperate financial situation. They reported an agreement by one creditor to accept notes and security for \$96,549, due for material. Alabama Traction, Light & Power Company, Ltd., agreed to deliver its notes for the amount due and to become due, these notes to be secured by its bonds. Almost identical conditions were imposed by other creditors.

James Mitchell in addition threw his personal resources into the Company's treasury to tide over the situation.

As counsel for the company I was forced to advise that unless creditors could be persuaded that the company could and would pay if given time, a receivership might be the only way out of the temporary difficulty. A bill in equity was prepared and presented to the judge of the United States District Court in Birmingham for such a proceeding, if creditors did not agree to terms of payment.

Fortunately it was not necessary to file the bill. Creditors were visited by officers of the Company. Fred S. Ruth, the Secretary, was especially effective with them. The largest of the Company's creditors exacted terms which were characterized at the time by officers of the Company as "harsh and unreasonable." All creditors were eventually paid in full.

It was soon realized that the war was likely to be a long one and that the Company must of necessity abandon its financing program of obtaining funds from England through Alabama Traction, Light & Power Company, Ltd. The financial structure must be rearranged so that new capital could be obtained in the United States.

A meeting of the English bondholders of Alabama Traction Light & Power Company, Ltd., was held at London on October 21, 1914, which was attended by several bondholders from the United States and Canada, including James Mitchell. The situation was presented in its entirety and the bondholders were asked (1) to defer for three years the interest on their bonds; (2) to cancel certain sinking fund provisions of the trust deed, and (3) most important of all, to authorize Alabama Power Company, to issue and sell to the public bonds and preferred stock which would have priority over outstanding securities.

Some of the outstanding bonds were held by Electric Bond & Share Company, represented by Niel A. Weathers, Esq. as its proxy, but were not voted for or against the proposals. The proposals were adopted, however, by the unanimous vote of the other bondholders represented at the meeting, and, therefore, the trust deed was effectively amended.

The importance and magnanimity of this action can be more fully appreciated when it is realized that in effect, it authorized Alabama Traction, Light & Power Company and

the mortgage trustee to release all security for the bonds and to accept the mere unsecured promissory notes of Alabama Power Company, which eventually amounted to nearly eleven million dollars.

This action placed the Company in a position to execute a new first mortgage on its properties under which it could sell its bonds in America. This was gradually accomplished, and Alabama Power Company was enabled to go on with its program.

Not only the company, but the State of Alabama and the people of the South are forever indebted to those citizens of England who were willing thus to stake millions of dollars upon their faith in the future of industry in the Deep South and in the ability and integrity of James Mitchell and the other officials of the Company. The fact that in after years these obligations were taken care of in a most satisfactory manner to all concerned in no way minimizes the significance of their action.

* * *

A very different disaster had threatened shortly after the completion of the dam at Lock 12 and the filling of the reservoir in the spring of 1914. Residents of the area filed hundreds of suits against the Company seeking to recover damages aggregating more than three million dollars on the contention that malaria-carrying mosquitoes were breeding in the waters impounded by the dam.

With the financial position of the Company soon to become deeply involved because of the European war, the loss of these suits would have been nothing short of a catastrophe.

As general counsel I recognized the necessity of knowing the scientific facts in respect to the alleged menace to these claimants. I went to Washington and conferred with Doctor William Crawford Gorgas, then surgeon-general of the Army, and the greatest living authority on the subject of malaria. Doctor Gorgas, native of Alabama, was known the world over for his work at Havana and later at Panama in the eradication of the yellow fever and malaria. Without the mosquito control he established, the Panama Canal could never have been constructed.

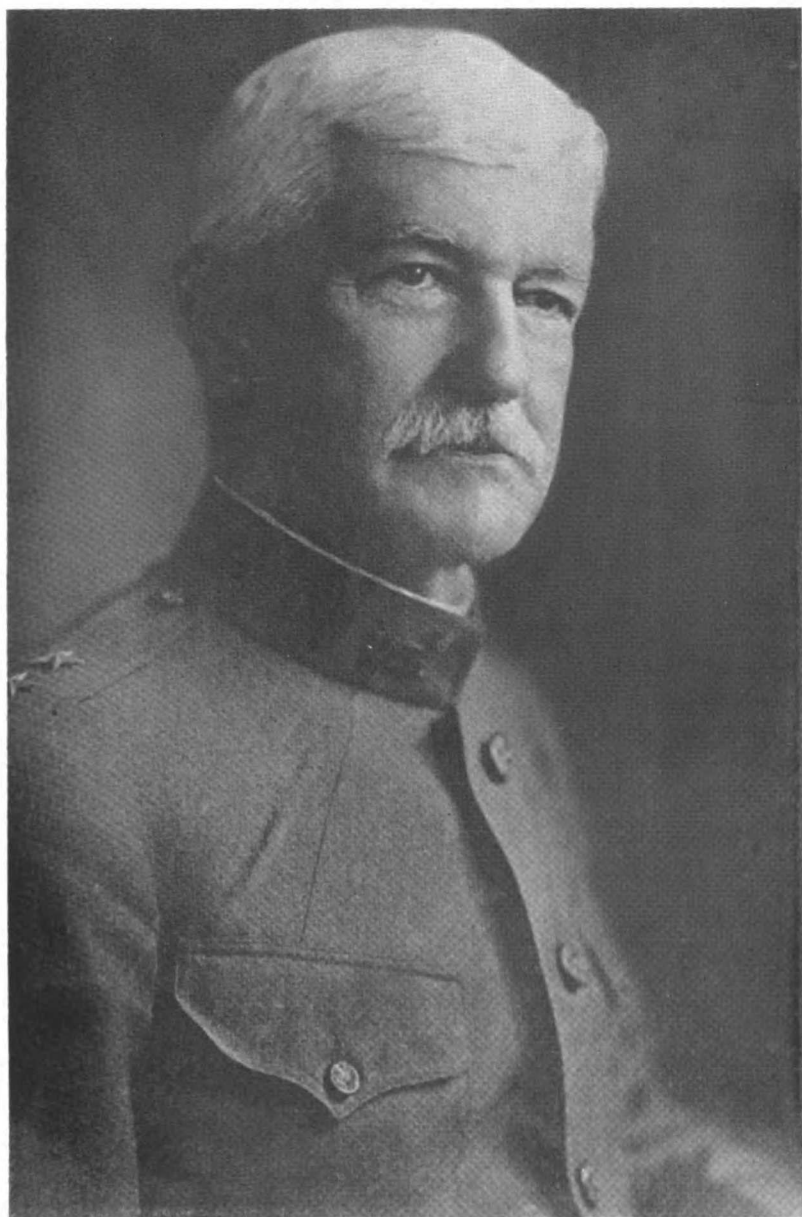
Doctor Gorgas agreed to come to Alabama and examine the whole matter. "Whatever experience I have," he told

me, "should be available for the well-being of the people of my native state and of the entire South."

Doctor Gorgas had said of his work: "If there were no other way to control yellow fever and malaria the hot countries would be left to the inertia of the ages." And it was vitally true that the twin scourges of yellow fever and malaria had retarded the growth and development of the entire southern region of the United States. In the period 1912-14, the mosquito theory of the transmission of those diseases was generally accepted by the medical profession and by laymen; but there were still many in Alabama and other parts of the South who thought that they were in some mysterious way the product of a miasma or bad air. The inertia of past decades was giving way to the scientific concept; but there was needed a positive and effective voice which would make it known for all time that methods of control were readily available.

Several of the most eminent lawyers of the State were associated in the defense of the suits: including Ray Rushton of Montgomery, J. Kelley Dixon of Talladega, Walker Percy and Borden Burr of Birmingham, and Oliver R. Hood of Gadsden. There were numerous conferences; and with untiring zeal a general policy of defense was agreed upon, which ultimately resulted in complete victory for the Company. I have always felt a deep sense of obligation to them, and particularly to Borden Burr of Birmingham for his excellent work as trial attorney in the first of the cases.

Meanwhile Doctor Gorgas and Doctor Henry R. Carter and Doctor J. A. Le Prince, two of his associates who had worked with him at Panama, inspected the margins of the lake formed by the Lock 12 dam with several of our Company including Fred E. Hale, O. G. Thurlow and myself. At the trial of the first case in Columbiana in February, 1915, the doctor testified to his findings. He explained to the jury in language they could understand the various types of mosquitoes, their habits and breeding places and the length of their lives. What might have been a dry and barren subject was filled with life and interest. He explained that the anopheles mosquito, the malaria carrier, was unable to fly more than a short distance and consequently never travels far from the breeding places. He found such breeding places very close to the homes of the plaintiffs. These, he testified, and not the reservoir, were



DOCTOR WILLIAM CRAWFORD GORGAS
1854-1920

causing their trouble. He recalled how as a boy on a farm in Bibb County, Alabama, far from any large body of water, there had been trouble with mosquitoes.

Convinced by this testimony of the world's greatest authority, the jury decided that the malaria was not caused by the Power Company's reservoir, but by conditions about the homes of the plaintiffs. It rendered a verdict in favor of the Company.

Several other cases were tried and resulted in verdicts for the Company. Appeals to the Supreme Court of Alabama and to the Supreme Court of the United States were unsuccessful.¹ Finally the remaining suits were dismissed.

At a meeting of the Newcomen Society on January 31, 1947, thirty-three years later, I presented a paper entitled "Doctor William Crawford Gorgas of Alabama and the Panama Canal." Soon afterwards a committee was formed to present the achievements of Doctor Gorgas to the electors of the New York University Hall of Fame for Great Americans. The election was held in October, 1950, and Doctor Gorgas received the highest vote of the six elected to the Hall of Fame. Woodrow Wilson, Susan B. Anthony, Alexander Graham Bell, Theodore Roosevelt and Josiah Willard Gibbs were the others. The bust and tablet for Doctor Gorgas were unveiled at an impressive ceremony at New York University on May 24, 1951.² Presenting the bust in behalf of the Gorgas Hall of Fame Committee, I was happy to remember the place he had won so long before in our company's own "hall of fame" for his disinterested service of science to a development which promised our people of Alabama and of the South so much.

* * *

Twice in Alabama Power Company's first months disaster had threatened. Twice relief had come—first through the faith of kinsmen across the sea, then through the scientific knowledge of a great American.

¹*Burnett v. Alabama Power Company*, 199 Ala. 337 (1917); *Meharg v. Alabama Power Company*, 201 Ala. 555 (1918); s.c. 249 U. S. 592. See *Hamilton et al. v. Alabama Power Company*, 195 Ala. 438 (1915), in which the legal principles were settled.

²See Appendix for more detailed statement of Hall of Fame ceremony.

CHAPTER NINE

"ONE FOR ALL AND ALL FOR ONE"

THE cry of the Musketeers is a principle of success in production and sale of electric power. There must be several sources of power and the service must go to customers differing in location and power requirements in order that there be diversity.

The boon of electricity is its decentralization of industry and living. It lets wheels be turned anywhere from anywhere, and lights lighted and switches closed. Yet, paradoxically, this decentralization depends on a certain degree of centralization. It depends on interconnection and integration of different power developments, as well as a wide distribution and diversity of customers. Only thus can maximum continuity, economy and dependability of power supply be assured.

Integration in the electric power industry really began with the installation of three bi-polar Edison "Jumbo" generators (the largest being 125 horsepower) at the Pearl Street Station in New York in 1882. When the plant went into operation in September, 1882, customers were served by each generator on its own circuit. Edison maintained that they could operate in parallel and finally tested his theory. History records that the system worked perfectly except for a setback, when a second engine and dynamo were started. The two engines seesawed with a terrific racket. As Edison put it: "Of all the circuses since Adam was born, we had the worst." But the technique of parallel operation was finally mastered and it is this technique that forms the basis of all integration today.¹

A number of generating plants feeding into an integrated system has resulted in dependable service, availability of power commensurate with requirements and lower rates. It is more fully discussed in relation to Alabama Power system on pages 49 and 147 of this history.

¹Hammond, John Winthrop, *Men and Volts, The Story of General Electric*, p 48.

It was apparent from the beginning that we must seek diversity both in generation and in use of power. If we could tie into the same system hydro-electric plants located in separate watersheds on rivers having different conditions of flow, we could take advantage of the diversity of rainfall and thereby insure a cheaper and more continuous power supply. If we could serve many different power users in the community, it would follow that we could serve them all more economically than if each tried to serve himself, since all consumers in all communities would not use the service at the same time.

As additional plants were constructed they were tied together in one transmission system. Similarly, cities and towns with different kinds of industries and different times of application, were tied together for a maximum service with a minimum investment. By gradually applying the principles of diversity, we improved the operating load factor and were enabled to lower the rates for all classes of service.

At the beginning of its operations, the Company had connected its Gadsden steam plant with its Lock 12 and Jackson Shoals hydro-electric plants. Thereafter, as each new power plant was placed in operation, it was connected with the system. As company power was introduced in the different localities, small local generating plants were abandoned and the production at Lock 12 reinforced by the steam plant at Gadsden.

As industry expanded in Alabama it came to be accepted also as sound economics, to seek coordination between the central station power system and by-product power plants of industry, thus conserving the energy from otherwise wasting waters, gas and heat. The first agreement for such coordination was made in 1914 between Alabama Power Company and Tennessee Coal, Iron and Railroad Company, largest of the steel companies of the Birmingham district. It has been followed by others with chemical, iron and paper companies. Such programs, flexible and of great economic value to the public and to particular industries, have made for a more progressive, orderly and prompt development of natural resources.

The transmission and distribution system of the Company called for pioneering and educational work. There were unavoidable losses. It was necessary to experiment with transmission in order to reduce the costs and at the same time under-

take to give reliable service. The public today has come so to accept uninterrupted service at all times that it is difficult to appreciate the cost and effort involved initially and even now.

First, lines were constructed from the Lock 12 plant to a few important centers—Birmingham, Anniston and Gadsden. As the uses of electricity were stimulated in these areas, the Company was encouraged to experiment further with transmission. Gradually the service was extended to smaller towns. Some of these had service, some not and some only intermittent service. As they were taken over, they were given 24-hour service.

The process of linking small cities and towns and rural communities by transmission lines was continuous. People of the state began to realize that when they obtained adequate power service, existing industries could be enlarged and they could compete with other sections for new industry. Electric power blazed the trail for a new day in many communities of the state.

From the beginning in 1912, the Company pioneered in new methods, new equipment and designs. It was realized that it would be necessary to keep abreast in the use of modern facilities and in substitution of electrically driven machinery for hand labor. A state-wide electric system does not look so large when it is considered in small individual units, but the total is staggering when all the small items are put together and seen in perspective. Trained men are required to design, construct and render the kind of service the modern electric customer demands.

To conserve the power resources of streams with wide seasonal variation in flow, the Company was careful from the start to keep records which would determine the proper heights of dams, satisfy the requirements of navigation and make possible the maximum electrical development. From the start, too, the use and adaptability of automatic equipment were studied through hundreds of tests conducted in the Company's own laboratory. Much attention has been given the study of lightning and its effect on the system, with instruments installed to measure the forces released by a lightning stroke, and records made of the path of storms and of prevailing weather conditions.

This work brought to the Company many who were to have important parts in its affairs in the years to follow,—one of them, Fernand C. Weiss, deserves special mention.

Soon after graduation from Massachusetts Institute of Technology in 1913, Weiss joined the Company as assistant engineer on transmission line construction. In 1915 he became assistant operating engineer; later construction superintendent; and in 1918 became construction manager of (our) Dixie Construction Company and vice president of that Company. In 1931 he became Chief Engineer and was elected vice president of Alabama Power Company in 1941.

The loyalty, vision and imagination of Mr. Weiss have been evident from his earliest days with the Company; and the wise and prudent administration of the Company's construction work under his leadership have been one of the most important phases of its development.

This history would not be complete without mention of Mr. Weiss' two principal assistants, Douglas F. Elliott and E. R. Coulbourn. They have ably carried much of the responsibility of the engineering and construction work of the Company for the past two decades.

It is plain today that Providence meant twentieth century Americans to spread out. The broad hint was given with electricity and the gasoline engine, which made the spreading possible, and so profitable and pleasant. Now the hint is turned to a veritable fire alarm, what with atomic fission and the great fear which is scattering metropolitan populations.

In Alabama and the South the processes of decentralization set in motion by electricity and the gasoline engine have been processes, too, for improving the lives of people already decentralized, people living in smaller communities and in rural areas. To these areas our company began coming in those days after 1912 with the kilowatts that meant jobs for boys and girls in industrial mills and plants. Too, there would be new facilities to make farming itself easier and more productive, and home service and appliances—the radio, the electric refrigerator, the electric range and many another modern boon—that would let them live as comfortably and happily in the country or small town as in the large city.

Because of the electric power we were bringing, industry and agriculture were able to supplement and balance each

other as never before. The power lines came and soon there were new communities surrounding mills and plants which power had made possible. The mills and plants meant employment for many men and women. The new community brought solution of nearby farm problems. Farmers, with thousands of new mouths to be fed were encouraged to diversify their crops and raise poultry and dairy products to sell profitably in a nearby market. For those not needed on the farm there would be work in the industry close by.

This is what the decentralization which is brought about by wide distribution of electric power can mean. This is the "one for all and all for one" of an interconnected power service, with many customers in many places.

CHAPTER TEN

GORGAS STEAM PLANT

WE THINK of World War II as total, but World War I was total, too, in many respects. It required the mobilization of millions of men and much industry, and was fought on many different fronts, on land and sea, in the air, beneath the water.

Many employees of Alabama Power Company served on one or another of these fronts, and the Company itself did its bit. Our contribution was in power for essential industries—and in the gift of our properties and dam site at Muscle Shoals.

After the initial uncertainty and depression following the outbreak of the war, the United States found itself the most important neutral, and orders for war materials and food supplies began to pour in. There was expansion in all lines of business, especially in industrial centers like Birmingham, with resulting multiplications of demand for electric power. We found it necessary to consider the building of another steam plant. Such was our confidence in the industrial expansion of the area we proposed to serve that we did not hesitate to undertake this and other new activities. Eloquent of this in 1916 was the execution of the Company's first mortgage dated March 1, 1916, providing for the issuance of thirty-year 5% bonds to refund short term bonds then outstanding and provide in part for the cash requirements for new properties to be acquired and constructed. An ultimate issuance of one hundred million dollars principal amount of these thirty-year bonds was authorized, marking a new estimate of financial requirements.

In 1916 the art of generating electric power by steam had not been perfected to the extent existing today. As a rule, it was more economical to supply customers with hydro-electric power. But to assure continuity of service it was evident that a hydro-electric development was not feasible without steam

reserves to supply power during periods of low water flow, and other exigencies. Although steam plants might be operated for only brief periods during the year, it was necessary to keep them in constant readiness.

It was obvious that our proposed new steam plant must be located at a site which would afford coal for fuel and water for cooling and condensation. Fortunately both coal and water were available near the Birmingham district, which was then the Company's principal load center.

Abner Bell Aldridge was then operating Stith Coal Company near Parrish, Alabama, which had been one of my law clients in the early days. Because of Mr. Aldridge's knowledge of the coal measures in the Walker County coal fields, he became our guide and counselor on coal and land values. After many days of exploring the whole territory, a site where coal and water were available was located in Walker County at the confluence of Bakers Creek and the Warrior River. Mr. Aldridge¹ was requested to purchase lands which became the site of the Warrior Reserve Steam Plant, afterwards named the Gorgas Steam Plant.

Construction of the new steam plant was begun in 1916 and the first unit of 20,000 kw was completed in August, 1917. In designing the plant, plans were made for an ultimate installation of three generating units. Intake and discharge canals and underwater foundations to take care of two more units were constructed when the original foundations were built. Within a very few months, as it turned out, these were to be in demand.

The plant was at first known as the Warrior Reserve Steam Plant. But the desire of the officials of the Company to recognize the great services of Doctor William Crawford Gorgas in malaria control and its effect on power development in Alabama suggested a better name. Shortly after the plant was completed, Senator John H. Bankhead and I visited Doctor Gorgas in Washington and asked his consent to name the plant and village for him. He gave his consent and the name was changed. The Gorgas post office was formally established by the Post Office Department on April 18, 1918.

During the fall and winter of 1917-18 the country suffered a coal famine, as a result of severe weather conditions, labor

¹See Appendix.

troubles and transportation difficulties. It was realized that an interruption in fuel supply would close down the Gorgas steam plant and seriously interfere with operations of the Company. We undertook to make definite arrangements, therefore, for the control of our coal supply. Over the succeeding years we acquired coal lands in the heart of the Warrior coal field adjacent to the Gorgas plant.

On May 5, 1950, a very beautiful ceremony was held at the high-school at Gorgas giving recognition to its significance in that community, dedicated as it is to "those who by heart or head or hand contributed to this edifice—The Thomas W. Martin High School—which is dedicated to the children of this community."

This writer was greatly honored by the naming of the high-school for him. The proceedings at the dedication were printed and constituted one of the most appreciated honors that have come to the writer.

CHAPTER ELEVEN

SOUTHEASTERN POWER

JAMES MITCHELL was stricken with paralysis in June, 1919. Soon thereafter the directors placed the executive power of the Company in my hands. In February, 1920, I became president. In July following, Mr. Mitchell died.

In the eight years of his association with Alabama Power Company he had accomplished much. When he became its president in 1912, it existed only on paper; when he died in 1920 it was a going concern, destined within a decade to rank among the nation's largest electric utilities. He successfully led the Company through the promotion period. He found the funds to finance it. With resourcefulness and courage, he guided it through the several crises in its formative years. His work, made possible in a sense, the industrial revolution in Alabama and he rightly takes his place among the great men of our state.

After Mr. Mitchell died, John Christen Johansen, the famous artist and portrait painter, was employed to make the oil painting of Mr. Mitchell which now hangs in the boardroom of the Alabama Power building. The painting was presented to the Company by Mr. Mitchell's brother, William E. Mitchell, at a meeting in the Company auditorium on April 22, 1930, in the presence of friends and former associates of Mr. Mitchell. At this meeting William Mitchell sketched the life of his brother from boyhood, and his business activities before association with Alabama Power Company. The painting was unveiled by Kina Marie Mitchell, granddaughter of James Mitchell and daughter of C. Malcolm Mitchell, his only son. Accepting for the Company, I spoke of the moral and spiritual inspiration which he had meant to the group around him, which, more than the Company's material progress in his lifetime, determined its destiny. (*Picture in section facing page 32*).

"A spirit of service and fair dealing; of faith in this com-

monwealth and the South; all were basic things, but beyond was the sympathetic personality that captured the souls of men. Seeing visions of the future was the problem of 1912, so difficult to translate into tangible results. That master spirit who could do both is deserving of a permanent place in the history of this Company and of this State."

The resolutions of the board of directors adopted in later years noted the passing of James Mitchell, E. MacKay Edgar of London, and Lawrence MacFarlane of Montreal, the leading personalities in this early financing in these words:

"And so we pause in our work to record something of the spirit of men whose contributions helped in making Alabama Power Company a great and useful public agency; that we may say of them, as Pericles of the Athenian dead:

'For the whole earth is the sepulchre of famous men; and their story is not graven only on stone over their native earth, but lives on far away, without visible symbol, woven into the stuff of other men's lives.'"

* * *

Before my association with James Mitchell began I was a member of the law firm of Tyson, Wilson and Martin in Montgomery. I was appointed general counsel of the Company in 1912, and was elected a vice president in 1915. When Mr. Mitchell fell ill in 1919, I took over his duties, as noted above. With the presidency of the Power Company I assumed also the presidency of Alabama Traction, Light and Power Company, Ltd.

In my recollection of those first days are many fine associates. Of several, especially, I would write.

Eugene A. Yates came to Alabama Power Company in 1912, as heretofore noted.¹ Upon completion of Lay Dam, the steam plant at Gadsden and the initial transmission lines, he resigned to become president of a large contracting company in New York.

In July, 1919, Mr. Yates was engaged by seven major power companies in the South to make a study of benefits to be realized from integrated operation of their systems. This report was completed and became the basis on which integration was

¹See page 40.

effected and many changes and relationships were brought about in the southeastern power situation.¹

Oscar Gowen Thurlow came to the Company in May, 1912. He was designing engineer for the Lock 12 (Lay) development and had an important part in the engineering work on all the other hydro projects. He was named chief engineer in 1916 and continued in that position until 1930. A notable achievement of his was the design for the backwater suppressor, first used at Mitchell Dam. One of our important hydro developments has been named Thurlow Dam in recognition of his engineering ability and his fine human qualities.

Chester Arthur Bingham's first service to the electrical industry was in 1908-1909 when he examined titles and prepared abstracts for the site and reservoir of the Jackson Shoals plant. Beginning in 1912, he assisted Company counsel with the legal work in connection with the Lock 12 project. He is due great credit for his work for the Company over many years; particularly in connection with Mr. Yates in working out the contract with the Mt. Vernon-Woodberry Mills Company at Tallassee. He became treasurer of the Company in 1940 and vice president in 1942.²

William J. Henderson³ was, at the inception of this effort, engaged in accounting at Montreal. A personal friend of Lawrence MacFarlane, counsel for the group, Mr. Henderson was

¹In 1921 Mr. Yates returned to Birmingham to become vice president and general manager of Alabama Power Company, remaining until 1930 when he resigned to head the engineering and construction work of The Commonwealth & Southern Corporation. Much credit is due him for his work in connection with the hydro developments of the company between 1920-1930. When it was apparent that The Commonwealth & Southern Corporation would be dissolved, The Southern Company was organized with Mr. Yates as president, later chairman.

²Mr. Bingham retired as Treasurer in September, 1952 and was succeeded by M. E. Wiggins, who had long been associated with the financial affairs of the Company. Mr. Bingham died on November 1, 1952 of a heart attack. During his many years with the Company he made lasting contributions to its legal and financial work. A beautiful tribute was paid him by the Talladega News at the time of his death, concluding with the expression,—that he was a "quiet, pleasant, friendly man whose unusual success had not detracted from his simplicity of character."

³Mr. Henderson died at Montreal, Quebec August 1, 1952.

employed in 1912 to take over the details of working with the trust companies and banks in the issuance of securities and later was elected secretary of the newly organized Alabama Traction, Light & Power Company, Ltd. Thus began a continuous service which lasted for some twenty years. During this time, Mr. Henderson carried on various complex relationships with companies in London, Montreal and Alabama. With frequent visits to Alabama, he acquired a knowledge of the situation which was to serve him and the group in the years to follow.

* * *

Prior to 1920, Alabama Power Company was not interconnected with other power companies in adjoining states. During World War I the problem of supplying sufficient power to meet the needs of customers and the demands of industry had become so acute, however, that steps were taken to connect Alabama Power Company system with companies serving the Atlanta and Columbus, Georgia, areas, so that surplus power could be exchanged with them. Under this sensible and simple arrangement power not needed in one state could be transmitted to the other. On May 4, 1920, the arrangement was embodied into a contract between Alabama Power Company and Georgia Railway, Light & Power Company. This provided for an interchange of surplus power between the companies, and the construction of the Gadsden-Lindale line. The companies extended their transmission lines to the Alabama-Georgia state line, where they were interconnected.

This was the first step in what proved to be complete integration of the power facilities of these and other companies, more fully discussed on page 147.

The arrangement quickly proved its worth. During 1921 a severe drouth occurred throughout the South seriously affecting utility service in Georgia, North Carolina and South Carolina. There was an acute shortage of electric power for utilities and industries. In some areas of the Carolinas, even the supply of water for domestic use was threatened.

Alabama Power Company had ample power to meet its own needs, and some to spare, but not enough to help its neighbors. The Company, therefore, leased the government's 60,000 kilowatt Sheffield steam plant and, through the interconnection with the Georgia system, relayed enough power to

Georgia and the Carolinas to help materially in tiding them over. The value of interconnections at the Company level was thus established, and others followed. An interchange agreement was worked out with the Columbus (Georgia) Electric Power Company on July 10, 1923.

These early interconnection agreements were significant and important but it was realized that maximum benefits could never be attained without complete integration, made possible by common stock ownership.

It will be recalled that Alabama Power Company was financed at the beginning by Alabama Traction, Light and Power Company, Ltd., a Canadian holding company, which marketed its securities through Sperling & Company of London. In this way nearly eleven million dollars had been secured and used in the development of electric utilities in Alabama. During World War I, as a result of economic and financial conditions in Europe, most of these securities had passed into the hands of American investors.

In these circumstances it seemed proper that ownership of the common stock of Alabama Power Company should rest in an American holding company. With this in view, I was authorized by the directors to go to England in July, 1924, to discuss with Sperling & Co. and other principal holders the matter of transferring ownership of the enterprise to an American holding company. The English investors had always shown a liberal attitude toward the Alabama development and when I presented it to them they expressed complete willingness to accept the change of holding companies.

Accordingly, Southeastern Power & Light Company was organized under the laws of Maine on September 2, 1924, with the writer as president. On October 10, 1924 stockholders of the Canadian company authorized transfer of all properties and assets of their company to the new Southeastern Company. The arrangement provided that holders of the preferred stock of the Canadian Company would receive preferred stock in the Southeastern Company, share for share; two shares of the non-par common stock of the Southeastern Company for each share of common stock of Alabama Traction, Light & Power Company, Ltd.; and debentures for the outstanding bonds of the Traction Company.

Southeastern Power & Light Company thus purchased the assets and assumed the obligations of Alabama Traction, Light & Power Company, Ltd. This change of ownership of the common stock of Alabama Power Company was effected in October and November, 1924. The ownership continued until the Southeastern Company was taken over by The Commonwealth & Southern Corporation in January, 1930.

By 1924 a substantial amount of the common stock of Alabama Traction, Light & Power Company, Ltd. was owned in the United States, principally in Alabama. In order to preserve a continuity of management a ten-year voting trust agreement was made under date of October 15, 1924, by which the principal amount of such common stock was deposited with W. H. Hassinger and the writer as voting trustees, and voting trust certificates were issued against the deposited stock. Mr. Hassinger had come into the situation shortly before James Mitchell died and throughout his lifetime was closely identified with the Company. His counsel and advice were invaluable in its affairs.

Southeastern Power & Light Company was formed primarily for taking over the common stock of Alabama Power Company and associated companies. But its organizers also had in mind to acquire other operating electric utility companies in the southeastern states, interconnect them and integrate their operations. This policy was successfully pursued over the next few years.

The year 1925 was an exceptionally dry one, and it was with great difficulty that the electric power requirements throughout the South were met. This situation re-emphasized the necessity for a more comprehensive approach to the whole problem of interconnection and integration. The Southeastern Company was called upon to supply capital for a number of companies engaged in electric utility service in south Alabama, eastern Mississippi and western Florida. Companies serving Mobile, Pensacola, Gulfport, Meridian and Hattiesburg were in need of substantial improvements and additions. Many were in financial difficulties and unable, on their own account, to raise the capital necessary for these improvements.

In the fall of 1925, we began discussions with Randall Morgan and Elmer Smith, representing owners of the common stock of Georgia Railway & Power Company, with the view of

bringing the Georgia company into the Southeastern system. The Georgia company and the lessor company, Georgia Railway & Electric Company, had long been in urgent need of additional sources of power and of new capital. It was agreed that there was a market in Georgia for surplus Alabama hydro-electric energy. Such a market also existed in Mississippi and Florida. Revenue from these markets would warrant completion of contemplated hydro developments on the Tallapoosa and Coosa rivers.

Early in January, 1926, a plan was worked out by which Southeastern Power & Light Company acquired the entire outstanding common stock of Georgia Railway & Power Company. Later, the electric properties at Columbus, Macon, Augusta and several other places in Georgia were acquired. Shortly thereafter, Georgia Power Company was organized to take over the Georgia group with an adequate financing plan. In somewhat the same process, Mississippi Power Company¹ and Charleston Consolidated Railway, Gas & Electric Company were taken over.

In this manner Southeastern Power & Light Company acquired the common stocks of Georgia Power Company, Gulf Power Company, Mississippi Power Company and South Carolina Power Company. It became also the vehicle for an integrated system which has served the public to great advantage over the years, and enabled Alabama Power Company to market large amounts of surplus electricity.

Without regard to the political and economic disputes over more extensive electric power holding companies which

¹The Mississippi Power Company acquired a number of utility properties, extending its operations from the Gulf of Mexico to the Tennessee border. In 1934 and again in 1939 it sold certain properties to Tennessee Valley Authority and thereafter confined its operations to an area just north of Meridian, extending to and along the Gulf Coast to the Louisiana line. These operations are connected with a network of transmission lines, which connect at certain points on the Alabama-Mississippi state line with the transmission lines of Alabama Power Company. Leonidas P. Sweatt, then a division manager of Alabama Power Company, went to Mississippi in 1924 to become its general manager, and become president on the death of B. E. Eaton in 1944. Both Messrs. Eaton and Sweatt achieved brilliant success in the management and public relations of that Company.

were destined to follow in after years, it would seem that no one can consider the story of the organization of Southeastern Power & Light as briefly recited here, without recognizing the plain necessity and common sense of the interconnections and integrations made possible. To have failed in this measure against waste, inefficiency and insufficiency in the use of one of nature's most precious and limited resources would surely have been anything but economic and anything but American.

CHAPTER TWELVE

HALF A MILLION HORSES

IT HAD been a disappointment to our group that we could not go ahead with the Cherokee Bluffs development on the Tallapoosa in 1912, as our first enterprise. The site there had been the deciding factor in bringing James Mitchell to Alabama. It was as attorney for the companies owning this and other Tallapoosa River sites, that I had first become acquainted with Mr. Mitchell in 1911.

During the years 1920 to 1932 we completed the Cherokee development and others in a building program which added more than half a million horsepower of capacity to our total.

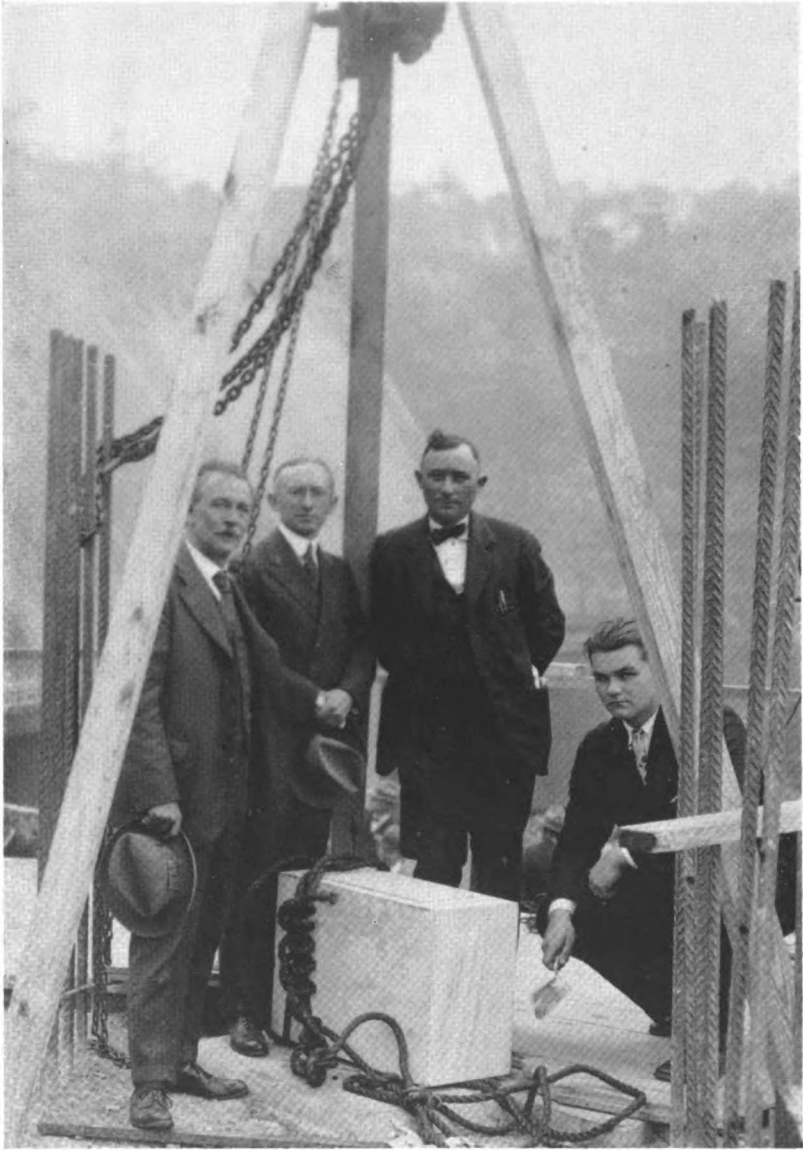
Much of this program of expansion could not have been undertaken had it not been for the integrated system which gradually grew out of the interconnections with other companies. A sufficient market for the power did not then exist in Alabama. This made it possible to export surplus electric energy until a market was developed within the state. The additional revenue thus obtained inured to the benefit of the rate payer, because it helped to meet the operating expenses and fixed charges pending the time the power was required in Alabama.

As the need arose, companies with which Alabama Power Company was interconnected eventually provided additional steam or hydro plants within their own territory. But in the meantime, Alabama had the benefit of large developments within its boundaries. And there remained the very great advantage through interconnected lines of being able to assure service at all times.

The situation with respect to Georgia was especially felicitous because the water powers in Georgia and Alabama are on different watersheds. This means that rainfalls are not always coincident. At times when there would be water in Georgia, there might be a dry spell in Alabama, or the reverse. Georgia is on eastern time and Alabama on central. This means that



On a cold day in December, 1921, the author welcomed this group which met to formalize the beginning of construction at Mitchell Dam. Barely accessible then, the community around it is now reached over paved highways. Mitchell Dam as it appears today is seen in picture section of Appendix.



Laying the cornerstone at Martin Dam November 7, 1925. Left to right, beneath the tripod are Governor W. W. Brandon; the author; C. C. Davis, superintendent of construction; John Curtis Lovelace (with the trowel).



The laying of the cornerstone at Martin Dam inspired Governor W. W. Brandon to eloquence. Significant among his remarks was this: "It is a privilege and pleasure to bring official sanction and approval to the efforts of the greatest developer of Alabama's natural resources, the Alabama Power Company." He stated also: "As long as I am Governor I shall do all in my power, by law or otherwise, to encourage capital to come and help us develop."



Martin Dam at Cherokee Bluffs on the Tallapoosa River, completed January 1, 1927, was not dedicated until October 16, 1936. Left to right in this picture taken at the dedication ceremonies are Doctor John Metcalfe Starke of Montgomery, at whose school many young men had instilled in them principles which served them well in later years; the author; Col. O. R. Hood of Gadsden, one of the original incorporators of Alabama Power Company; and Benjamin Russell of Alexander City whose cooperation through many years helped make possible the construction of the power facilities at Cherokee Bluffs.



On occasion of dedication of Thurlow Dam, October 28, 1939. Thomas W. Martin, Captain W. P. Lay and Oscar G. Thurlow.

the maximum demand in the two states does not occur at the same hour and may be served with less installed capacity than if there were no interconnection. There is also an advantage resulting from the difference in types of industry in the two states, still further reducing the maximum demand at a given time.

Another impetus to the development of additional power plants was approval of the Federal Water Power Act by President Wilson on June 10, 1920.¹ This act created the Federal Power Commission which was authorized to grant licenses—not exceeding fifty years—for the construction of dams and power plants on navigable streams. No longer was it necessary to secure the passage by Congress of an act authorizing construction of each individual dam.

* * *

On June 27, 1921, Alabama Power Company was granted a license by the Federal Power Commission to build a dam on the Coosa River at Duncan's Riffle. Construction work commenced on July 1, 1921 and the project was completed on August 15, 1923. The dam is solid concrete, 1,176 feet long and 91 feet high. The project was completed with three generators; later increased by the addition of a fourth unit to 101,000 horsepower or 72,500 kilowatts. This development was designated "Mitchell Dam" in honor of James Mitchell at a public ceremony held at the site on December 19, 1921. (*See picture section following page 64*).

* * *

Before the completion of Mitchell Dam, the long delayed construction was begun at Cherokee Bluffs.

This was the site for which H. C. Jones and associates had secured a charter from the Legislature of Alabama in 1900. After James Mitchell and his associates acquired it in 1912 their intention to make it their initial development was frustrated by the need of rights to the increased power which would accrue at the dam sites downstream of Montgomery Light & Water Power Company, seven miles below Cherokee Bluffs, and another at Tallassee, three miles further, owned by Mt. Vernon-Woodberry Cotton Duck Company.

The Company instituted suit against the Mount Vernon-Woodberry Company to recapture this excess or increased

¹41 Stat. at L. 1063.

power, it will be recalled. Our position was upheld by the Supreme Court of the United States, as previously noted. After the right was thus established, negotiations were resumed between Alabama Power Company and the Mount Vernon-Woodberry Company. Eugene A. Yates, O. G. Thurlow and Chester A. Bingham, representing our company, and Howard Baetjer the representative of the Mount Vernon Company, deserve great credit for their patience, good judgment and fairness of attitude in reaching a satisfactory agreement.

* * *

Under the terms of the agreement (dated June 8, 1923), with Mount Vernon-Woodberry Company, Alabama Power Company superimposed a new dam on the existing dam and erected a new power house. The agreement is an excellent example of the wise use and conservation of natural resources. Before the Power Company reconstructed this project it was possible to realize at the site intermittently 8,500 horsepower. Now, Alabama Power Company develops 72,000 horsepower at this installation and there is, in addition, a generating unit of 8,000 kilowatts (12,000 horsepower) owned by the Mount Vernon-Woodberry Company adjacent to the Thurlow Dam power plant. The Mount Vernon-Woodberry Company is entitled to generate for its own use a specified number of kilowatt hours per week in perpetuity.

The Board of Directors decided to designate the dam "Thurlow Dam" for Chief Engineer Thurlow; and on October 28, 1939, a suitable ceremony was held at the plant. (*See picture section following page 64*).

Mr. Howard Baetjer of Baltimore, Chairman of the Board of the Mount Vernon-Woodberry Company, was unable to be present at the dedication of Thurlow Dam but sent the following statement to be included in the proceedings:

"We naturally have special interest and even take some little pride in this development as our company and its predecessors constructed and operated the earlier dams upon this site. The construction of the Thurlow Dam and structures directly upon and over our site and our structures already in place brought up many problems and involved many difficulties in the working out of the plans to provide for the common use of the property. You will remember that it required quite an elaborate agreement in order to safeguard the rights of both

the Power Company and the Mills.

"It is a real source of satisfaction to us to look back over the past fifteen years and to realize that, in spite of the necessarily involved character of the agreement, in no instance has any point of disagreement arisen between us. It seems appropriate at this time to recall that Mr. Thurlow was among those responsible for this pleasant relationship."

This contract has been in force since 1923 and has been eminently satisfactory to both parties.

With legal obstacles cleared and agreements reached, construction of the Cherokee project could at last proceed. On June 9, 1923, the day after the contract with the Mount Vernon-Woodberry Company was signed, Alabama Power Company obtained a license from the Federal Power Commission for construction of the dam at Cherokee Bluffs. Within a month work was actually under way.

However, the financial and other problems which had to be overcome were destined to postpone the ultimate completion of the project. Construction was begun, then stopped for a while, and resumed later under more favorable conditions.

The layman has no concept of the amount of work to be done before construction such as that at Cherokee Bluffs could be completed. In addition to the engineering work, a mountain of legal work was necessary. Lands within the reservoir had to be acquired, abstracts prepared, titles examined. An area of more than sixty square miles which was to be covered by the lake had to be cleared of all trees, houses and debris. The grade and bridge of the Central of Georgia Railway had to be raised. Before the reservoir was filled, it was necessary to move twelve cemeteries to higher ground, and before each grave was moved, it was necessary to locate and obtain the permission of surviving relatives.

The cornerstone for the Cherokee Bluffs project was laid in a public ceremony on November 7, 1925. There were addresses by the Governor, William W. Brandon; by Senator J. Thomas Heflin; and A. G. Patterson, of the Alabama Public Service Commission. "Cherokee had to be saved for its greatest possible service," said H. C. Jones, one of the Cherokee pioneers. "It is with great satisfaction that the vision of 25 years ago is on the way to realization—that this giant is to become the servant of the people. It was this project that

caught the attention of the late James Mitchell. He recognized in Cherokee the keystone to successful waterpower development in Alabama. I can see him now as he stood on that hill and visualized things, the beginning of which you see today. His wish that he might live to see Cherokee developed was not to be, but the memory and spirit of that great and good man is in the work as it is carried to completion."¹ (*See pictures in preceding picture section*).

The project, completed January 1, 1927, is much larger than was contemplated by James Mitchell. The dam is a solid concrete structure 2,000 feet long and 168 feet high. It impounded at the time of its construction one of the largest artificial reservoirs in the world, storing approximately 72 billion cubic feet of water, sixty billion of which are available for power purposes. The lake covers forty thousand acres and has a shore line of some seven hundred miles. The available storage under normal operating conditions should materially aid navigation on the Alabama River.

The power house contains three generators of 45,000 horsepower each. Provision was made for the installation of the fourth unit which was completed in July, 1952 with a capacity of 55,000 kilowatts (75,000 horsepower). This brings the total capacity to 210,000 horsepower.

* * *

It was a matter of much pride and sentiment for me when the board of directors on June 16, 1926, officially named the Cherokee development Martin Dam, and the lake Martin Lake. The formal dedication ceremony was held at the plant on October 16, 1936.

Perhaps it is because of my special and personal sentiments as regards the Cherokee Bluffs development that I have re-

¹In 1912 a silver trowel had been presented to Mrs. Nora E. Miller, of Dadeville, Alabama, by James Mitchell in recognition of her important work in behalf of water power development in her native state. Accompanying it was the promise that with it she should lay the cornerstone of the project, whenever in future years the opportunity should come. Before the promise could be fulfilled both donor and recipient of the gift passed away. Mrs. Miller's nephew, John Curtis Lovelace, performed the ceremony on this occasion.

membered and prized through the years the words of Alabama's beloved and highly respected Benjamin Russell, when the cornerstone was laid in 1925:

"I am not unmindful of the fact that upon Tallapoosa soil, back of this giant dam, will rest the larger part of this enormous body of water necessary to be impounded to make this enterprise capable of serving this and other sections in time of water distress. This means the loss to Tallapoosa County of large acreage from cultivation and yield but I firmly believe that under the changed conditions, attentiveness on our part will make for better advantages and more opportunities for Tallapoosa County than heretofore existed.

"As your company takes the waters of the Tallapoosa which have heretofore gone to waste and gathers it together for the use and benefit and pleasure of thousands of people in this and other sections of our common country; we of Tallapoosa County, bespeaking the friendly cooperation of your company, will diligently strive to move forward with you to our mutual gain and understanding."

Ten years later, at the dedication of Martin Dam, Ben Russell was master of ceremonies. His expressions then indicated that he and other citizens of the county had long since recognized the value of power to the people of the state. He said in part:

"This great enterprise, through science and skill and daring, making sure of its mastery of Old Man River, brought into being a valuable servant for man's use, an invisible substance — electric energy. This energy or power readily transmissible from its source of generation to distant points, transmitted to places where there was need for power to turn the wheels of industry, and to be the silent and reliable servant and handy-man in the homes and offices of our people, in city, village and country throughout Alabama."

"Industry in many branches was stimulated. Many old undertakings were revived. Many new and varied manufacturing plants have been set up—many more are coming. Alabama, with the aid of an ample supply of electric energy *marches on!*

"Alabama recognizes the great service rendered by the Alabama Power Company in creating a splendid system of commercial hydro-electric power in our state.

Alabama welcomes this industry as a great developer for our commonwealth."

* * *

It should be mentioned that at Martin Dam a library was established several years ago principally from the interest of Mrs. R. D. Dawkins, wife of Superintendent R. D. Dawkins.

At the suggestion of Mrs. Dawkins the library was given my name. It now contains approximately 1,300 volumes. This was greatly appreciated.

In the fall of 1926, the clearing crews and erectors were transferred from Martin Dam to the site of Lock 18 on the Coosa River to begin construction. Work went forward rapidly and on January 1, 1929, the plant was placed in operation.

The dam is solid concrete, 2,066 feet long, 125 feet high. It develops 144,000 horsepower, with provision for additional installations to give it an ultimate capacity of 180,000 horsepower.

In the naming of this dam, it was desired to recognize Colonel Reuben A. Mitchell and his brother, Sidney Z. Mitchell, who had long been associated with the Company. But there was already a Mitchell Dam named for James Mitchell. Accordingly, the directors gave to this new dam a name selected by R. A. and S. Z. Mitchell, the maiden name of their mother—Jordan. At the ceremony dedicating the dam and power house several notable addresses were made, one of which was by Owen D. Young, chairman of the board of directors of General Electric Company.

Before Jordan Dam was complete, construction was started at the Upper Tallassee site. Montgomery Light & Water Power Company had completed there in 1902 the first important hydro-electric plant in the state, with 8,500 horsepower, to supply the City of Montgomery. This dam was destroyed by a flood in 1919, and when we acquired the site it was necessary to build a new dam, rebuild the powerhouse and install new generating equipment. This dam, seven miles below Martin Dam and three miles above Tallassee, was completed July 1, 1928. It is 1,261 feet long and 87 feet high. The capacity is 50,000 horsepower, with an ultimate capacity of 75,000 horsepower. The board of directors decided to designate the dam as Yates Dam, and on June 28, 1947, a ceremony was held at

which there was unveiled a bronze plaque giving suitable recognition to Mr. Yates. (*See picture section in Appendix*).

* * *

Thus Alabama Power Company added more than a half million horsepower of capacity in the period 1920-1930.

Great as was this achievement, the Company was also active in the development of steam plants. Unit No. 4 of 60,000 kilowatts at the Gorgas No. 2 steam plant was completed and placed in operation August 15, 1929. Provision was made for additional installations. Situated at the confluence of Baker's Creek and the Warrior River, it utilizes much of the equipment and facilities of the Gorgas No. 1 steam plant to which it is adjacent. The site, as already indicated, is immediately contiguous to the Company's coal mines in the heart of the rich Warrior fields.

In 1941, Unit No. 5 of 60,000 kilowatts was added at the No. 2 plant; and following the end of World War II, the demand for power increased so rapidly that the Company decided to add the sixth and seventh units at No. 2 plant, each capable of generating 100,000 kilowatts of power. Number six was completed in May, 1951; number seven was placed in operation in June, 1952.

In the United States, relatively few steam generating plants are so ideally located as Gorgas steam plants. In a beautiful countryside abounding in coal almost at the plant site, on a stream which provides the millions of gallons of cooling water required hourly, and in a location relatively near large centers of power use, Gorgas steam plants are among the few so located.

Named for Dr. William Crawford Gorgas, the Company's generating units at Gorgas help supply the electricity used by over half a million farms, homes, businesses and factories. It reaches them over a network of 4,214 miles of high voltage transmission lines. Two other large steam generating plants and six hydro-electric plants also feed into the system. Another steam plant—Barry—is under construction.¹

Coal, oil or gas may be used to supply the necessary heat for the production of electric power by steam. At Gorgas, coal from huge supply piles is ground to powder in a pulverizer. This powdered fuel, fine as the highest quality face powder, is then blown into a tube-lined furnace with refractory walls

¹See page 146.

capable of withstanding high temperatures. The furnaces for the boilers for the four generating units at Gorgas No. 2 steam plant will contain approximately 85 miles of steel tubing. When the No. 2 plant is in full operation, it will burn approximately 150 tons of powdered fuel every hour. This represents 72 railroad cars daily.

The powdered coal ignites the instant it reaches the combustion chamber, and burns at a temperature in excess of 2,500 degrees Fahrenheit. The steam with a temperature of 950 degrees Fahrenheit and a pressure of 1,250 pounds per square inch rushes through pipes to the turbine blades, which in operation become so hot as to glow a dull red. The turbine spindle, to which the blades are connected, turns at 3,600 revolutions per minute. It is directly connected to the generator. At this speed, the tips of the longest turbine blades are moving at the rate of 940 miles per hour, or faster than the speed of sound.

Essential in the operation of the steam generating plants is a large water supply. For the Gorgas steam plants, this is provided by the Warrior River, on the banks of which the plants are located. The quantity of water needed for conversion into steam is relatively small and must be of high purity, but huge quantities of raw water from the river are used in the condensers. At full operation, Gorgas No. 2 steam plant will utilize over 19,000,000 gallons of river water per hour.

The condensing water is not consumed; it merely passes through the condenser as a cooling agent and flows back into the river within a few minutes after being pumped into the condenser. The river water, being cooler than the spent steam, absorbs heat from the tubes. This cooling of the tubes by the river water causes the steam to condense into water, which again is supplied to the boilers and again is converted into steam. This process is repeated indefinitely with only small additions of pure water being necessary.

A necessary part of a modern steam generating plant is a well-equipped chemical laboratory such as is installed at Gorgas. Water and fuel analyses must be made at frequent intervals to keep the plant at high operating efficiency.

Much of the coal used and to be used in the Company's Gorgas steam plants comes from its own mines about a mile

from the plants. The remainder is supplied from nearby commercial mines.

The two Gorgas plants have a total of 400,000 kilowatts of capacity.

* * *

This was the decade sometimes called the jazz age in America. It was one of immense expansion, including an expansion of credit which eventually brought the depression of 1929. But as I look back on the excesses I find none in the confidence reflected in the future of America and her economy. The excesses brought collapse, and afterwards there would be war, and war again. But the great expansion period of 1920-30 in our Company spoke nevertheless of the immensity of the economic future possible to us—and, I think, promises still.

* * *

Wide acclaim has been given the Company and its brilliant engineering minds in respect to its rate programs. Among the important rate advances in the middle 1920's was a promotional residential rate formulated by Alabama Power Company engineers to give the electric user a lower rate per kilowatt hour as use increased. This rate was adopted in 1928 and was one of the first rates of this type and the forerunner of the objective rate. Later, in 1933, the so-called objective rate plan, logical sequence of the earlier promotional rate, was designed by W. R. Waggoner, rate engineer, Alabama Power Company, and approved by Alabama Public Service Commission September 2, 1933. J. A. Zobel is credited with working out the practical application of the plan. Under this plan a very low rate was offered to customers for increased use. The technique was subsequently improved and on April 30, 1939, the lower rate was given to all residential users.

The idea of making available at once a future low rate as a vehicle for developing additional consumption was novel to say the least.

The same plan was made effective in Georgia January 1, 1934; in Tennessee, February 1, 1934; in South Carolina November 26, 1934; in Mississippi September 1, 1935; and in Florida August 1, 1935.

The objective rate plan also assumed national proportions. In 1937 there were 82 operating companies and 10 municipal plants which had adopted objective rates.

CHAPTER THIRTEEN

THE FARMER TAKES A WIFE

THE FIRST rural transmission line in Alabama was built in 1920 to serve ten farmers and one cotton gin along the Whitesburg Pike Highway in the southern part of Madison County. Thereafter the marriage of agriculture to electricity in the state became an increasingly happy and productive one.

The Company's early years had been devoted necessarily to such activities as raising capital, obtaining appropriate permits from the counties, states and federal government, acquiring lands and rights of way from the property owners, constructing power plants and connecting transmission lines to principal power distribution centers. By 1920, we were providing electric service in 38 towns and serving 14,670 customers.

From the beginning, however, we had recognized the importance of agricultural and rural development, along with industrial and city development.

It must be remembered that at the beginning of the 1920 decade there were many towns whose electric service was supplied by small, isolated plants. Not until these communities were interconnected with the transmission system of Alabama Power Company was it possible even to consider the extension of lines into rural areas. The capacity of the small plants often was barely enough to supply service to the town.

In 1920 agriculture was by far the largest activity of the state. Convinced that electricity could play an important part in this activity, the Company launched its pioneering with the Madison County rural line. In 1922 discussions were begun with Professor M. L. Nichols, head of the Agricultural Engineering Department of the Alabama Polytechnic Institute, which led to a cooperative experimental and research project. We contributed \$24,000 to the Alabama Polytechnic Institute for this project, and built experimental rural lines in several agricultural sections to determine what uses the farmers of the

state could profitably make of electricity. E. C. Easter, an associate professor of the Agricultural Engineering Department, was assigned to the field studies.¹

Dr. E. A. White, Director of the National Committee on the Relation of Electricity to Agriculture, cited the Alabama work in 1924 as "the biggest experiment in the world in the economic use of electricity by agriculture." Describing the Alabama experiments, President Spright Dowell, of Alabama Polytechnic Institute, declared in January, 1924, that they were among

"the most important projects undertaken by the Experiment Station. Work along this line has been done in a minor way in other states, but our purpose is to make a thorough and comprehensive study which will reveal all fundamental facts involved. We want to determine how the 256,000 farmers in Alabama, as well as those in other states, can receive the benefits of the use of electricity now enjoyed by city dwellers. It places Alabama in the front rank among the states of the union in work of this kind."

To assist in the program, Alabama Farm Bureau Federation appointed a committee of farmers and agriculturists to make suggestions and to make sure that the experiments were conducted on a practical basis. In 1926, President Edward A. O'Neal of the Alabama Farm Bureau Federation, and subsequently long-time president of the American Farm Bureau Federation, stated that in his opinion, based on personal investigation and observation, Alabama Power Company's central station electricity was reducing farm household drudgery, helping to meet farm labor shortage and curtailing farm cost to such an extent as to make rural life ideal.

In our annual report on April 19, 1926, I pointed out that we are all dependent upon the farmer for the necessities of life. "He lacks this important agency in his household and living conditions. Industry has the motor in the cities and towns; the farmer will find that it reduces his cost of operation, and that it will in the end contribute toward making

¹In 1927, Mr. Easter was employed as chief agricultural engineer of the Company and has taken an active part in the rural program in Alabama throughout. He is now vice president in charge of sales for the Company.

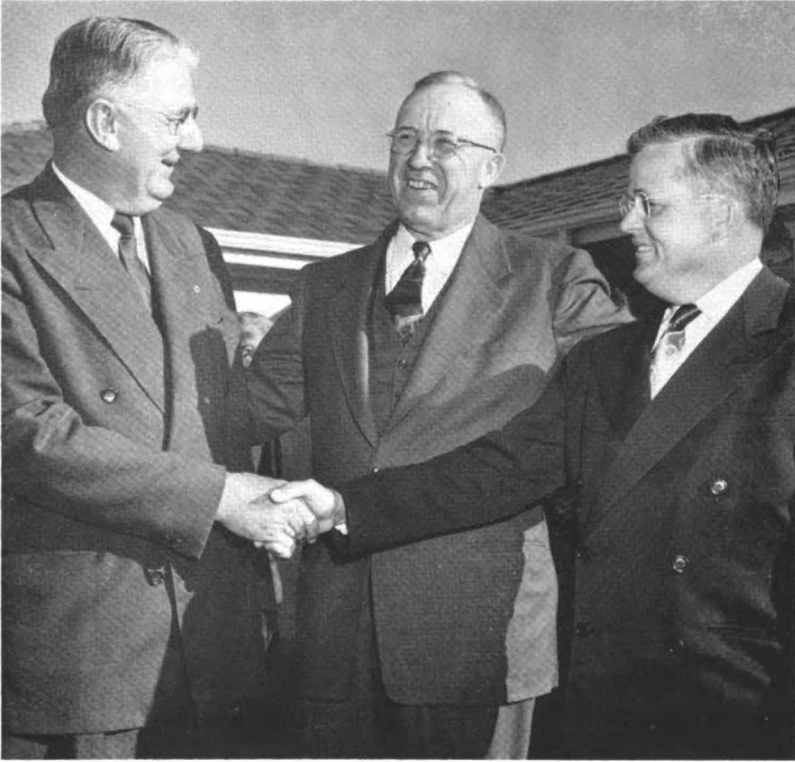
his industry profitable. If those who live in the rural sections will do their part in advancing the use of electricity, just as the users in the city are doing, the farmer will find the same service available to him throughout the state. We have not waited upon the full development of the use of electricity before bringing it to the farmers, but we are engaged in this pioneer work in the hope that its benefits and advantages will recommend themselves as the work goes on, and thus make electric service permanent in our rural sections."

The Company did not, however, wait upon the full development of the use of electricity through such research, because we were convinced that there was real need for such service.

The Company has pursued that program and had, by July 1, 1952, built a total of 22,103 miles of rural line to serve 135,999 rural customers. Of those customers some had been transferred to urban rates; others were on lines sold to T.V.A. Within the Company's service area over 98 percent of all farms were being served by the end of 1951.

In addition to rural customers served directly by the Company, electric service was being provided for approximately 55,000 customers of rural cooperatives which purchase all or much of their power from the Company.

During 1950, the Company connected its 125,000th rural customer to its lines—M. S. Murfee, near Autaugaville in Autauga County. Mr. and Mrs. Murfee gave an open house party on November 7, 1950, honoring officials of Alabama Power Company and others interested in agricultural development. "Our Company," said General Manager Lewis M. Smith, on that occasion, "is committed to the ideal of doing our part in the development of Alabama. We began our rural line work more than a quarter of a century ago because we felt that the rural areas should have the conveniences which electricity was bringing to the cities and towns. With the help of the Experiment Station and the Extension Service at Auburn we developed data on the practical application of electric service to farm jobs. Our engineers produced construction specifications to reduce the cost of rural lines without in anywise impairing the reliability of the service. Rates, commensurate with line costs but low enough to permit electricity to 'pay its way' on the farm, were devised. Following these studies and ex-



An unusual event in the history of the Company took place near Prattville, Alabama November 7, 1950. On that day Mr. and Mrs. M. S. Murfee held open house for officials of Alabama Power Company and others who long had been interested in rural electrification and improved farming practice. In this picture, left to right are E. C. Easter, vice president of Alabama Power Company; P. O. Davis, director, Extension Service, Alabama Polytechnic Institute being greeted by Mr. Murfee. The occasion was the fact that the Murfee farm was the 125,000th rural customer to the Company's lines.

periments our rural line program was then launched. We feel that we have carried out the great public responsibility which this program imposed upon us."

In 1932, to stimulate national interest in rural electrification, I personally provided funds to the National Electric Light Association (later, to its successor, Edison Electric Institute) for an annual award to the utility making the greatest contribution to rural electrification and agricultural advancement in its area. The "Thomas W. Martin Rural Electrification Award" has been made annually since 1932 except during some of the war years. The winner has been chosen each year by outstanding agricultural authorities. Our Company participated in the competition for several of the years and was adjudged winner in 1932 and 1947. The Company's activity in this field has been so great, however, that it has waived the right to compete since 1947 in the hope that a wider participation among other companies would result.

* * *

In 1935 the Rural Electrification Administration was created by the federal government. It stimulated further interest in rural electrification throughout Alabama and the nation. We have cooperated with it by providing a power supply for cooperatives which built systems within the Company's service area.

Indicating the extent to which Alabama Power Company had joined agriculture and electricity in Alabama before the federal program was launched, the Company in 1940 sold its properties in 13 north Alabama counties to the T. V. A. and to municipalities and cooperatives in that area. There were included approximately 1,400 miles of rural lines serving 5,169 rural and farm customers. Since that date our rural electrification program has all been south of the boundary line of the service areas established by the Company and Tennessee Valley Authority.

Although we built rural lines as rapidly as circumstances would permit after World War II, our greatest progress in any one year was made in 1947. During that year the Company built 3,078 miles of lines and connected 18,043 new rural customers. It was for this progress in building rural lines and for assisting generally in the programs of agricultural advance-

ment within our service areas that we were given for the second time the Thomas W. Martin Rural Electrification Award in 1947.

Throughout this entire rural development program in Alabama, the Company has had the cooperation of all agricultural agencies working in the state. In addition to early contributions made to the program by the Agricultural Experiment Station of Alabama Polytechnic Institute there has been wholehearted cooperation from the Alabama Extension Service, including the county and home demonstration agents, and the vocational agricultural teachers.

This history would not be complete without tribute to the splendid interest and assistance of the county agents, home demonstration agents and their assistants, and other representatives of the Alabama Extension Service, vocational agricultural teachers and others whose leadership has done so much to make available to farmers and their families information to enable them to make practical and profitable use of electricity in their farming operations.

Of all the things electricity has achieved for mankind, all the revolutions, all the aids to living and to producing, I wonder if any other quite compares with what it has done and continues doing for the farm people of the South. To have pioneered as our Company has done in this development gives us great satisfaction.

But there is yet much work to be done to make electric service of increasing value to the farmers. And the years ahead should be a period of greater development and increasing use of electricity in rural areas.

CHAPTER FOURTEEN

BY WIRELESS AND BIG WIRE

ALABAMA POWER COMPANY launched the first radio broadcasting station in Alabama on April 24, 1922.

Wireless transmission of sound rather than by mere signals, began with the invention of the vacuum tube by J. A. Fleming in 1904 and its improvement by Lee De Forrest in 1906. The broadcasting of speech and music in programs for the public was inaugurated in 1920 at Chelmsford, England, and in Pittsburgh, Pennsylvania. Our station—WSY—began two years later.

It was originally intended as a means of keeping in touch with line crews in isolated regions. But so great was the interest of the public in radiophone that the equipment was converted to broadcast entertainment programs. The station was built on Powell Avenue between Nineteenth and Twentieth Streets in downtown Birmingham. Work of assembling the transmitting equipment got under way about the middle of January, 1922, and the station was placed in operation on the evening of Monday, April 24, 1922. So new was radio broadcasting that much of the equipment had to be made on the spot. Some of the parts were designed by Power Company men and, becoming standard, were later manufactured and sold by Southern Equipment Company to other radio broadcasting stations. In this enterprise such men as George H. Middlemiss, B. F. Burch and W. J. Baldwin were the moving spirits.

It was my privilege to speak briefly on the opening of the station, saying to our listeners that our slogan would be "Service from the Heart of Dixie." Dr. C. B. Glenn, Superintendent of Schools of Birmingham, was present on that memorable occasion and in his talk referred to the event as "Science's Latest Contribution to our Civilization."

The *Birmingham Age-Herald* on the morning of Tuesday, April 25, 1922, announced that "the first regular radio con-

cert to be broadcast in Alabama was given last night," at the station of the Company located on Powell Avenue.

A little later Station WSY was enlarged and moved to Loveman, Joseph & Loeb's department store in downtown Birmingham. The antenna was strung from towers erected on the roof and the studios were located, through the courtesy of the Loveman firm, in its radio shop.

WSY was the first radio station to adopt a trademark. It signed off the air with the sound of a hammer on an anvil. The announcer would say: "The anvil symbolizes the City of Birmingham, iron and steel working center of the South, and home of WSY. One stroke of the anvil stands for health, one for happiness and the third for prosperity. All three Alabama gives in unlimited measure." He would then slowly strike an anvil three times and as the sound of the last stroke faded away he bade the audience goodnight. WSY had immediate popularity. During its years of operation, engineers of the Power Company continued to improve the devices and techniques of radio transmission.

Civic organizations were invited to use the station to advertise their communities. Birmingham churches were allotted time, and morning and evening services broadcast each Sunday. Realizing that a large proportion of WSY listeners consisted of farmers, effort was made to broadcast material to them. Market reports were supplemented by material specially prepared for the station by the national and state departments of agriculture. The WSY orchestra, composed largely of Company employees, was organized and appeared on many of the programs. More than 10,000 letters were received from listeners all over the continent commenting on the programs.

During the months of our radio activities, the radio was not used by advertisers. There were no sustaining funds from any outside source. The entire effort was undertaken as a public service.

By the fall of 1923 the Company felt that its mission in pioneering radio broadcasting in the South had been accomplished. It was becoming necessary to employ talent for the programs, and we had announced that we would not operate when that happened. On the evening of November 6, 1923, Alabama Power Company stepped down from its role as operator of WSY.



Dr. and Mrs. Hudson Maxim, right, with the author and Mrs. Martin at Station WSY in early 1923.

To safeguard the ideal of service the station was given to Alabama Polytechnic Institute. Equipment was moved to Auburn and consolidated with station WAPI, which had been established by the Institute after our station began. After a few years at Auburn, the station was moved back to Birmingham and leased by the Institute to other operators, but the Institute reserved certain allotted time to broadcast programs of special interest to farm people.

Thus, the trained minds and willing hands of many men and women of the Company had the satisfaction of contributing to the development of this important industry, so significant in the lives and hearts of the people of America.

* * *

Simultaneously with wireless transmission, the Company pioneered in another type of sound-carrying, this time not by wireless but by "big wire." Carrier current communication is something of which the average layman knows little. It is the use of live power lines as telephone lines. The first installation of carrier current telephones was made in 1923 between Anniston and Birmingham. On the initial call, Division Manager Seyforth talked from Anniston to Operations Manager E. W. Robinson¹ at his desk in the Brown-Marx Building in Birmingham, and the voice traveled over power lines carrying 100,000 horsepower. "The voice that rides 100,000 horses," it was called. Company engineers continued to experiment with this type of communication and improve it. When it developed greater reliability and service than the Company's private telephone system which paralleled its power lines, carrier current telephones were installed on several important high voltage lines. Some of the original equipment used during the experimental period between 1923 and 1926 is still in use. This type

¹Mr. Robinson is a native of Ohio and a graduate of Ohio State University. He joined Alabama Power Company in 1923 as assistant superintendent of distribution. He was elected operating vice president in 1937; a member of the Board of Directors in 1940; and was appointed General Manager in 1952 succeeding Lewis M. Smith. His loyalty, excellent judgment and understanding of man, have had much to do with the success of the Company during the three decades of his service with the Company.

of communication is extremely important in system operation because it makes possible continuous communication through the wireless principle, even in time of power trouble or wire breaks, thus contributing to a prompt restoration of service.

The carrier current telephone has thus far been confined to the Company's high tension power system, but the principle has possibilities in the field of rural telephones over the lower voltage rural electric lines. With this thought in mind, the Company, in cooperation with the engineers of Southern Bell Telephone and Telegraph Company, undertook an experiment in 1945 to explore the possibilities of carrier current telephone communication over our rural electric power lines. The site chosen was Suttle, near Selma, Alabama. Several carrier current type telephones were installed on the lines there, and during January, 1946, test operations were begun. The first call was made by E. B. Fuller of Suttle, to Dr. John A. Fuller at Selma. The second was a long distance call made by J. F. Suttle, Jr., to his brother, Roger C. Suttle, at Gadsden. These experiments proved that a carrier current telephone system can be safely and satisfactorily handled over the existing system of rural electric lines. Using power lines for telephone conversation requires special and much more expensive equipment, however, than is used in an ordinary telephone instrument, and the problem of reducing the cost remains to be worked out. But it is possible that dependable carrier current telephone service may some day become as commonplace in rural areas as electric service is today.

* * *

For wireless and the big wire and for many other accomplishments, the decade of 1920-1930 is a proud period in Company history, characterized by great growth and great service to the state. It was a time when the inventive genius of our engineers contributed much to the technical progress of the industry as a whole, and when research and experimentation laid the basis of future developments in rural electrification.

In 1920 the transmission of electric power at high tension over long distances was relatively new. Much of the equipment used by the electric light and power industry today was unheard of then. During the decade engineers associated with our Company developed and patented devices which have

since become standard equipment in the operation of electric utilities, and the Company pioneered in the installation of these devices. Many are of limited interest to the layman, but of vast importance to the electric industry. There is an interesting story back of each of these inventions.

One was the Thurlow backwater suppressor. At many power plants there is a great loss of hydroelectric power due to the fact that, during flood conditions when water is going over the spillway, the level of the water in the tailrace at the outlets of the draft tubes leading from the turbines is raised, thus reducing the head on the turbines and in turn reducing their capacity to produce power. In some cases the flood waters reduce the head on the turbines to such an extent that it is necessary to close down the plant completely. In 1921 Oscar G. Thurlow, chief engineer of the Company, designed a new type of dam and power house at Mitchell Dam, known as the Thurlow backwater suppressor, which almost completely eliminated the problem of flood waters reducing the head on the turbines or interfering with power production. In this type of dam, the energy of the flood waters coming over the spillway is used to remove the backwater from over the draft tubes, thus maintaining practically a uniform head on the turbines, even when the stream is at flood stage.

Another story is that of the hydraulic laboratory established by Chief Engineer Thurlow in Birmingham to study problems connected with proposed water power developments. Here precision scale models of all dams, power houses and river beds in which the Company was interested were built and studied under all possible conditions under the general direction of engineer Ireal A. Winter.

In this way valuable information was gained and it was possible to predict with accuracy results far in advance. For example, it was while studying a model of Martin Dam in the hydraulic laboratory that it was learned that it would be advisable to build a stilling basin at the base of the dam in order properly to control flood waters which would eventually go over the spillways there.

Throughout the planning and construction of dams and power houses the Company has sought the best and most experienced technical talent in America with respect to such prob-

lems as stress and strain, as well as the general design. It has been the aim to build structures with every possible safety factor as well as practical need served. Among our consulting engineers over the past thirty years was Dr. Silas H. Woodard whose advice and great experience have been sought not only in respect to hydro plants but also steam plant foundations and general layout.

DEVICES

Back of the dependable electric service which the customers of Alabama Power Company receive there are thousands of faithful employees whose constant care it is to see that service is available twenty-four hours every day, seven days a week, and every day of the year. However, since 1920, there have been many automatic devices developed and patented by the personnel of this Company which assist the men in the operating department in maintaining uninterrupted service. One of the most memorable was directed at protection from the results of lightning. A lightning storm in any part of the state could play havoc with electric service back in 1920. But inventive genius has brought it about that lightning will scarcely cause a flicker of the lights today. At first the solution was fuses. Any housewife understands the importance of fuses to the electric system within the home, but few realize that fuses or the equivalent are needed on high tension lines also. What was probably the outstanding work in the development of high tension, high capacity fuses was done by the Company at the Bessemer substation during the period 1923-1925 under the direction of the late George H. Middlemiss. Subsequently, the problem of lightning came to be handled by high tension breakers, with extremely fast automatic reclosing equipment. This breaking of the circuit and reclosing is done so quickly that it is scarcely noticeable. Such equipment is essential to the operation of a high tension electric system today on a modern basis. Alabama Power Company took the lead in developing this equipment between 1925 and 1930. In this, too, George Middlemiss¹ led the way, with James M. Oliver,

¹See Appendix.

now vice president and general manager of Georgia Power Company.

* * *

Then there was the switching problem. In the early days of the Company, as with all electric utilities of those days, switching of high tension power circuits posed real difficulties. Many men still in the service of the Company can remember when switching was done by hand with the aid of a long slender pole. To a considerable extent the development of early high tension transmission systems was handicapped by lack of suitable switching equipment. Important work was done in the development of equipment, both automatic and otherwise, by Southern States Equipment Company, at Birmingham, a company established about 1920 by certain Alabama Power Company engineers. George H. Middlemiss was distinguished for his part in the development of modern switching equipment.

Most of the automatic devices used in the modern electric system depend on relays of various types. Several Alabama Power Company men were instrumental in developing and patenting electronic, automatic reclosing and overload relays. Such men as George Middlemiss, M. J. Seale and S. J. Spurgeon were conspicuous in this work.

To the layman such things as relays and circuit breakers have little meaning, but the operation of the modern high tension power system is dependent upon the relaying and protective devices. Almost from the beginning our Company was outstanding in the development and application of such devices in its system. Its leadership in this field was so well recognized that the Company was used as one of the models in designing the British Grid System.

Many other inventions are deserving of attention. The widely used symbol, "Reddy Kilowatt," was designed by Ashton B. Collins, brilliant commercial manager of the Company. The unit substation, developed by S. J. Spurgeon about 1930, is of prime importance to the entire industry today; as is remote supervisory control, inaugurated by the Company about 1925.

When you flick a switch in your home the waters of some distant Alabama river sparkle to give you light or heat or an-

other service. It seems simple indeed. But between the switch and the distant turbines are miles of power lines, tons of machinery, hundreds of engineering operations. The magic which your thumb and forefinger summon comes of long years of study, science, invention, assembly and pioneering on the part of many men. That our men have ranked high in this magic is a source of pride to all of us.

* * *

In the early days when the Company had only a small number of customers the billing was done by hand. It was an era of low residential consumption and a period of eye shades, tall desks and high stools.

With the advent of major appliances along with the expansion of the Company's business, the need for speed, accuracy and better accounting controls was increasingly important. The speeding up of accounting procedures was receiving more and more attention from the management, and it became possible to obtain machines suitable for this type of billing. As a result, the Company is in the forefront of American utilities in the use of the most advanced types of machines for customer billing.

It is a pioneer in the statewide use of the "mark-sense" (a development of International Business Machines Corporation) method of meter reading. This is a method where the meter reader uses a soft lead (graphite) pencil to make the reading in certain sections of a card. The card is placed in a machine which has wire brushes that pass over the card. When these brushes pass over the graphite marks an electrical contact is made which punches holes in the card indicating the current meter reading. The mark-sensing method of recording meter readings now makes it possible mechanically to compute and produce bills for electric service with greater accuracy and at less cost.

General accounting was also done by hand in the early days; and as the Company expanded, this type of accounting was discarded and accounting machines were installed. Budgetary controls were established and comparative statistics were developed which gave to management a vehicle for controlling costs.

The economical operation of the Company is, to a large extent, dependent upon its accounting procedures, and reports

and analyses which have kept apace with the Company's marked advances in engineering, production and distribution.

More recently the Company installed one of the new electronic calculator machines (IBM) which is already performing many and diverse calculations heretofore performed by hand. Several more are to be installed.

CHAPTER FIFTEEN

AN AFFAIR OF STATE

IN 1927 Alabama Power Company became statewide. On February 19, 1915, the Company had acquired the several separate operating companies from its parent company, Alabama Traction, Light and Power Company, Ltd., when the latter company was no longer able to sell securities abroad after the outbreak of World War I.

The operating companies acquired were Huntsville Railway, Light & Power Company; The Decatur Light, Power & Fuel Company; Etowah Light & Power Company; Pell City Light & Power Company; and certain other properties.

When these companies were merged with Alabama Power it became a natural subject for regulation. Public regulation of public utilities is something the propriety and need of which are not disputed. In Alabama the instrument of state regulation since 1920 has been the Alabama Public Utility Act,¹ which became law in that year.²

The Act laid down as fundamental public policy the principle that a utility was entitled to such rates as would enable it to earn a fair return on the reasonable value of its property devoted to the public service. The Act conferred upon the Alabama Public Service Commission exclusive regulatory powers over service, rates, issuance of securities and accounting practices of private as distinguished from municipally owned utilities.

Upon the completion of the 1915 merger, Alabama Power Company issued and sold its first bonds in the American market. This was a \$2,000,000 issue of three-year 6% bonds. They were sold to Harris, Forbes & Company and Coffin & Burr, investment bankers of New York and Boston. Funds from the sale enabled the company to liquidate most of its ob-

¹Acts, Special Session, 1920, p. 38.

²Code of 1940, Title 48.

ligations to manufacturers and others, and to plan the extensions of transmission lines necessary to obtain new business.

For many years Harry M. Addinsell of Harris Forbes & Company and Francis E. Frothingham of Coffin & Burr were most helpful in marketing the bonds of the Company. I have long felt that we owed much to them for the confidence they expressed in our work from their first visit to Alabama in 1915, and on through the succeeding years.

The program naturally required large sums of new capital. In 1916 we executed a new mortgage securing proposed issues of thirty-year bonds in the maximum amount of \$100,000,000. This was the most important financial undertaking of the Company since its beginning in 1912. Some of these bonds were sold shortly afterwards, but World War I so seriously interfered with long term financing that a five year note issue was arranged, secured by the thirty-year bonds. This was a temporary but successful expedient. Before the maturity of the notes they were taken up; and successive forms of finance were worked out in tune with gradual improvement in the position of the Company.

On June 15, 1920, we first offered preferred stock to the public. This was done through our own investment department, which marketed the securities direct to the people of the State to finance part of the construction costs of many new projects. It was the first time in the history of Alabama that a utility corporation had offered its securities in this manner and employees of the Company and others took advantage of this opportunity. Through the years it is remembered that this work was organized by Thomas Bragg who conducted it with success and much enthusiasm as manager of the investment department. He continued with the Company, exercising increased responsibilities, until his untimely death in 1943.

So successful was this program that additional shares were offered. In the decade 1920-30 a total of 350,000 shares were sold, the majority to citizens of Alabama. Meanwhile, the original debt to the English bondholders was converted into unsecured debentures, then into common stock.

On December 8, 1924, the Company purchased the properties of The Sheffield Company. These included the electric utilities and street railways, as well as the water system in Florence, Sheffield and Tuscumbia. Hydro-electric power from our

system was then made available to residents of the Tri-Cities area, and the rates in that district were reduced to those in effect throughout the system.

In 1927 the Company found itself in a position for the first time to obtain funds on a basis comparable with other American companies. From the low point in 1915 the financial position had steadily improved. This improvement was reflected in a gradual reduction in interest and dividend rates. It was regarded as a real achievement in 1927 when we were able to sell forty million dollars of 4½% bonds to the public on a basis of 4.80%, as compared with our first issue of two million dollars, three-year 6% notes, which cost to redemption over 12% per annum.

* * *

It was in this year—1927—that we became state-wide.

Before November, 1927, Alabama Power Company had served the northern two-thirds of the state, Gulf Electric Company a greater part of the southern, and Houston Power Company a large part of the southeastern area. These companies were interconnected, however, by a high line completed in December, 1926, over which power from hydro plants was supplied to Mobile. Neither the Gulf Electric nor the Houston Company generated as much power as was needed, nor were they able to obtain money advantageously for extensions of plants and systems. More efficient operation and much needed improvements could best be achieved by bringing these companies into Alabama Power Company.

The consolidation on November 10, 1927, brought increased responsibilities to the public.

Gulf Electric Company properties acquired included the electric operations in approximately two dozen towns in south Alabama. The largest of the physical properties acquired was serving the Mobile area, second largest city in the state. It included a steam plant in Mobile with a generating capacity of 4,570 kw,¹ and two small hydro-electric plants at Bates and

¹The plant was already obsolete by the time Alabama Power Company acquired it. It was maintained in operating condition on a standby basis, however, until after the Company completed its new steam generating plant at Chickasaw. It was razed in December, 1945.

Blewitts on Osmussee Creek with a generating capacity of 900 kva and 300 kva respectively.

The steam plant in Mobile, located at Royal and St. Louis Streets, was eloquent of the long story of the South—and, indeed, of mankind. It was built on the site of the old slave market. The last cargo from Africa for this market had arrived on the schooner *Clotilda* in August, 1859. A part of the hull of this ship is still in the mud of Bayou Conner, Baldwin County, where she was burned. It was significant, I thought, that an electric plant should have been built on the site of an old slave market since no physical development, surely, has done so much to emancipate man as has electricity.

This steam plant, constructed in 1912, and the two small hydro plants at Bates and Blewitts, built in 1918, had not generated enough power to meet the needs of Gulf Electric Company, and in 1921 the company leased the 8,000 kw steam plant at Chickasaw from Chickasaw Shipbuilding and Car Company.

Houston Power Company had seven distribution lines, five communication lines, five customer substations and the remains of a hydro-electric plant at Golden Bridge, five miles south of Newton, Alabama, on the Choctawhatchee River. This plant, which had a generating capacity of 500 kw was washed out during the spring floods of 1927.

After Alabama Power Company acquired the properties of Gulf Electric Company and Houston Power Company, they were cut in on our system and supplied from its transmission lines. The Company renewed the lease on the Chickasaw steam plant from time to time, however, until we bought this plant in 1939 as the site for a new steam plant to serve the Mobile area. For years Mobile had received most of its electric power from our Jordan Dam on the Coosa River more than 180 miles away and with a high degree of dependable service.¹

With the consolidations of 1927 we became in every sense an Alabama power company, covering the state, controlled by the state, an affair of the state.

Birmingham, the state's magic city and metropolis, was our home, in a beautiful building completed two years be-

¹The Mobile system, owned by H. M. Byllesby & Company, was managed for many years by Theodore K. Jackson of whom we write in the Appendix.

fore. The general office at the beginning had been a single room, 1116 Bell Building, in Montgomery. The legal and secretarial work had been carried on at my law office in the First National Bank Building in that city. There the dream of a great power system and a market for its output had been subjected to practical study which had shown that markets within economical transmission distance must be developed by persuading industrial operators of the economy and efficiency of electric power. Birmingham, then, as now, was the industrial center of the state. It was for this that the general offices were moved to that city in the fall of 1912. In 1925, the Company completed its present office building at 600 North 18th Street in October of that year. The building has been commended widely for architectural beauty and general utility. Expanding volume of business and personnel made additional space necessary and construction of a 12-story annex was begun. It was completed for occupancy in July, 1951, and adjoins the present building on the west side.

POWERGRAMS of October, 1926, carried the following item:

"A distinct compliment was paid Birmingham, Ala., the South and the Alabama Power Company, when the London (England) *Daily Express*, a newspaper with more than 1,000,000 circulation, printed a picture of the office building of the Power Company as one of three selected from all over the world to show that power stations and public utility buildings should not be ugly. The other two buildings selected by *The Express* were the St. Gothard Railway building in Switzerland and the Lots-road Station in Chelsea, England."

CHAPTER SIXTEEN

THE MANUFACTURE OF CUSTOMERS

PROFESSIONAL critics of the electric power industry who love to picture it as oppressing the public it serves have their answer in the dependence of the industry on that public. In very practical degree we are our brothers' keepers because unless our brothers are able to buy our power we perish.

Alabama Power Company may have made mistakes on occasions in the telling of its story, but never in the story itself. From the beginning, enlightened self interest has told us that next to the manufacture of power itself our greatest manufacture must be of customers, the upbuilding of industry, agriculture, commerce and whole civilization in order that there might be an outlet for the increasing production of electric power.

The customer we most needed to manufacture was the industrial one. Alabama always has been, and remains a predominantly agricultural state, but more and more in the years of agricultural poverty it was apparent to our economic philosophers that the well-being of the farmer could be enduringly improved only if there were industry to absorb the surplus products and populations, and to have at home the profits of manufacture.

The 1920 census told the story: Only about 20% of the total population was engaged in manufacturing and mining, while some 70% was engaged in agriculture and forestry. Migration of ambitious youth to other areas continued. Since generally throughout the United States the farming areas had the lowest purchasing power and the industrial areas the highest, it was evident that there was need for more manufacturing in Alabama.

"As sellers of power," said James Mitchell, shortly before his death, "it is the purpose of the Company to secure users of large units of power and it then becomes the business of the Company to develop the community by every possible means. As Alabama grows, so will the Company."

Many times was this expression repeated,—“As Alabama grows, so will the Company.”

When we began operations it was sufficient to seek as customers industries already established which were within reach of our lines. This work was carried on by what we called our commercial department, under the direction of such men as M. Webb Offutt, Theodore Swann, F. P. Cummings, and Wells M. Stanley, with which work Frederick Darlington was associated as adviser.¹ They were effective in selling power to existing industries. By the end of 1920 the company had grown from the modest beginning involving five customers and 7,500 horsepower of connected load to a system involving some 1,500 miles of transmission lines, serving a territory of about 25,000 square miles and supplying electric power to a connected load of approximately 370,000 horsepower. The estimated population of the service area was 750,000. The prospective business which had once been present was decreasing steadily as former prospects became customers. With an ample supply of electric power available to existing customers there was a disturbing lack of future new markets.

We were aware of ourselves as not only in need of industrial development for our area but also as the key to such a development. “There can be no important industry established anywhere,” said this writer on one occasion, “unless (1) power is permanently available; and (2) there is confidence on the part of industry that power will continue to be available to meet increasing needs as the industry expands and grows.”

In 1920 and 1921 the Company began its effort to attract new industries to the State. A new industries division was established; was destined to epochal success. With no past experience from which to spring-board the program, methods had to be developed and the pattern cut to fit the cloth. Thomas D. Johnson, a young industrial power engineer, was placed in charge under general direction of Vice President R. A. Mitchell. Both had unlimited enthusiasm, a sincere desire to help other people and a habit of hard work through long hours. It was, of course, essentially sales work. The idea was an intangible commodity, but the prospects could be carefully selected and the sales material intelligently assembled. This latter in-

¹See appendix for stories about Theodore Swann, F. P. Cummings, W. M. Stanley and Frederick Darlington.

volved a factual knowledge of what Alabama had to offer the chosen industries. Research along such lines became, and remains, a major function of the division. It also became apparent that personal solicitation of selected industries by well-informed industrial engineers was the most effective procedure.

Initial research quite naturally pointed to cotton mills. There was an abundance of plant personnel, the principal raw material was at hand, tax laws were favorable, and the cost of power and fuel were relatively low. It was discovered that eastern cotton mill executives knew little about Alabama. Most of them were inclined to consider it a foreign country and were loathe to believe it had advantages to offer.

An advertising campaign to show what Alabama had to offer cotton industries was begun. Advertisements were carried in trade journals; there were exhibits at textile shows in Boston and Philadelphia; a motion picture entitled "King Cotton" was created and illustrated; and informative pamphlets and booklets were given distribution.

Often overlooked is the fact that the industrial progress of Alabama and indeed of the whole South in recent years is largely the product of research; much of which would be non-existent but for the research laboratory. While most of this research was carried on in laboratories away from the South, the South now is building its own research facilities which are having an important influence on the location or enlargement of existing industry.

One of our first new industries was won when the treasurer of Pepperell Manufacturing Company visited Alabama in 1922. He was impressed with the community of Opelika and announced that his Company would establish a branch plant at that location. Since 1926, the first full year of operation of Pepperell's Opelika plant, its use of electric energy has increased 1,330 per cent. The number of its employees in 1950 was more than six times the number in 1926.

Among the hundreds of mills and plants located in Alabama over the years as a result in large part of the Company's efforts are the tire plants of Goodyear Tire & Rubber Company at Gadsden; and of B. F. Goodrich Company at Tuscaloosa; the Allis-Chalmers farm tractor plant at Gadsden; Sauquoit Spinning Company at Gadsden; Goodyear-Decatur Mills at Decatur; Bemis Bros. Bag Company at

Talladega; Alabama Mills (10 locations); American Manufacturing Company (Albertville and Guntersville); West Boylston Manufacturing Company at Montgomery; the group of Vanity Fair Mills located at Monroeville, Demopolis, Atmore and Jackson; the lamp factory of Westinghouse Electric Corporation at Reform; and more recently, the plant erected at Anniston by General Electric Company for the manufacture of electronic tubes.

Another industry to which much attention was given and which continues to be of the highest importance, is paper. In the making of paper more electric power is needed proportionately than in any other industry. And our part of the country had in waiting the best of all raw materials—pine. Pine pulpwood reproduces itself within 15-30 years in Alabama, and this means that the supply can be made literally perpetual. This fact, and the fast developing science in the use of Southern pine supplemented with the water and fuel advantages of Alabama, gave our industrial engineers an interesting story. Of the large wood-pulp plants presently operating in Alabama it may be said that the Company's work was a large factor in the location of each. Oldest is Gulf States Paper Corporation's plant near Tuscaloosa. Others include International Paper Company, Mobile Paper Company, Hollingsworth & Whitney and National Gypsum Company at Mobile, and Coosa River Newsprint Company's great plant near Childersburg.

Other industries natural to a farm and forest area such as ours, have had our attention, such as milk and cheese plants, meat packing plants, frozen vegetables, canning. Many such plants are located in the Company's service area, and have meant new jobs for Alabama people as well as cash markets for Alabama farmers.

Diversity of industry has been given careful study from the beginning. As in the case of a one-crop agriculture, a one-type industrial growth is undesirable. To balance heavy industries such as iron, steel, coal and cement with light manufacturing has been, and is, a logical goal in the state's industrial development. It was found desirable, too, that there be a balance of men and women employees. Heavy industries employ more men than women, while light ones, notably the many garment plants, employ a larger proportion of women. A plant such as the cigar factory at Selma, employs several

hundred people, approximately 80% of whom are women. New plants mean also stores, restaurants, filling stations and a host of other satellite enterprises that provide additional jobs and markets.

Negotiations with prospective industries must necessarily be conducted in confidence in many cases, but the confidence is often shared with other interested bodies. Our industrial division has consistently cooperated with all the agencies engaged in similar activities in its service area, such as the State Planning Board, the State Chamber of Commerce, local chambers of commerce and railroads. Industrial committees which the division itself has helped organize in communities unable to support a chamber of commerce, learned to rely on our industrial division for confidential assistance with their prospects.

* * *

The Company's industrial development program from its inception has had an important part in bringing many other plants to Alabama; others have been locally organized or their operations enlarged and extended because of the availability of power. These employed initially some 200,000 men and women and produced 400 different products.

Taking the period 1925, through 1951, our recent review of the capital investment in plants established or enlarged in this period in our service area as the result, in whole or in part of the activities of our Company will run very near one billion dollars. The increased employment in such plants has had much to do with the very substantial increase in standards of living throughout Alabama; concerning which more will be said later.

Almost every community in our service area has an active industrial committee. The manufacture of customers has only just begun.

CHAPTER SEVENTEEN

FEDERAL FOOT IN THE DOOR

OUR Gift at Muscle Shoals turned out to be more than we thought under the patriotic compulsion of the time. We gave the government a dam site which became a competitive empire.

Until the turn of the century the problem there was navigational—how to surmount a difficult barrier to year around navigation of some 600 miles of the Tennessee River. When the age of hydro-electric power came, the problem was the double one of navigation and power development.

In 1906 the Muscle Shoals Hydro-Electric Company had been organized by a group of Alabama citizens to build dams on the Tennessee, which would create reservoirs submerging the rapids so that boats might pass in safety, and to turn the power of the falling water into electricity. The idea seemed to meet with public favor and a joint development was planned by the United States Government and the Company, the one to contribute a portion of the cost for navigation improvement, the other to pay for the cost of creating power, which was to be sold to the public under public regulation. There was also involved even then the building of a nitrate plant to use the cyanamid process for the extraction of nitrogen from the air. One of the promoters, Frank S. Washburn, had obtained the right to use the German (Cyanamid) process. Congress directed the War Department to investigate and report on this plan with a view to public benefits from a development¹ that would transform an old-age barrier into a manifold asset.

When James Mitchell came into the picture in 1911 he pointed out the value of interconnecting power from the Tennessee River with that of the Coosa and the Tallapoosa Rivers and with steam plants in the coal fields. His idea was to utilize the large amounts of secondary power which would be available at dams on the Tennessee. The river is unusual for

¹House Doc. 20, 63rd Cong., 2nd Sess., May 18, 1914.

southern ones in that it has an extensive watershed from which, during rainy seasons, the flow is considerably augmented for most of the year. While this periodic flow makes possible the generation of tremendous amounts of power, a large part of it has little value, unless supplemented by power from other sources.

A somewhat similar program had been proposed by the owners of the Tallapoosa River project.

When the holdings of the Muscle Shoals Company were acquired by Alabama Power Company and its associates in 1912, a tentative plan was worked out between the Company and the War Department for the development of power and navigation on the Tennessee. On December 10, 1913, the Company submitted a proposal for construction of Dams numbered 2 and 3. This proposal was recommended by the War Department to Congress for adoption on May 18, 1914,¹ with request for an appropriation to finance the construction.

But World War I broke out a few weeks later and the attention of America was directed to the eventuality of being brought into the conflict. Large quantities of nitrogen would be needed for explosives and the principal source of supply was Chile. This supply might easily be cut off by enemy submarines. It was decided to erect a plant to extract nitrogen from the air.

In 1916 Congress authorized construction of such plant and both a steam and hydro power plant to supply the necessary electricity. Muscle Shoals was selected for the development. This terminated our plan for joint construction for power and navigation. Muscle Shoals Hydro-Electric Power Company had invested more than \$500,000 in the dam site and adjacent lands to be submerged, and for studies and plans which had occupied engineers and executives over a period of years since 1906. The United States Government desired to acquire title to these properties but was unwilling to reimburse the Company for what it had spent. No agreement could be reached. Government representatives announced that they would exercise the power conferred by the acts of Congress and take possession.

¹House Doc. 20, 63rd Cong. 2nd Sess.; see also H.D. 1262, 64th Cong. 1st Sess., June 28, 1916.

Not wishing to take the matter into the courts at a time of national emergency, James Mitchell, on behalf of the Company, offered on February 18, 1918, to donate the power site, the lands, and all its engineering studies, plans and specifications to the government, on the expressed condition that the Company *should receive consideration in the disposition of any surplus power not required for the needs of the Government.*

James Mitchell, president of the Company, wrote the Secretary of War on February 18, 1918, as follows:

"The properties in question represent a very heavy investment by our Company and have occupied an important position in our plans for securing power for the future. For several years we have worked on plans for ultimately developing these water powers as an integral part of the hydro-electric system which will be required by our companies to meet the needs of the communities which they serve. Much of this work was done by us in collaboration with the army engineers looking toward a development in cooperation with the Government on some such plan as was favorably reported on by the Army engineers in House Document No. 1262, 64th Cong. 1st Session.

"I am advertng very briefly to these features, as I judge from the several interviews which I have had with you and with other representatives of the Government that you are fully aware of what the Company has done in preparation for the ultimate development of this water power and I believe you appreciate that it should receive consideration in the disposition of any surplus power not required for the needs of the Government."

"... In times like these, however, such consideration must be secondary to the urgent needs of the nation to secure these properties immediately for the carrying out of the Government project for the production of war nitrates, and we have accordingly determined to donate our lands to the Government for this purpose. I have already given instructions to the Company's attorneys for the preparation of the necessary deeds of conveyance.

"It is our understanding from you that the Government only desires to acquire the site at Dam No. 2 and adjacent properties with flowage easement on such of our other properties as may be affected by this development.

"I need hardly assure you of the desire of the Company to cooperate with the War Department to the fullest extent in placing at your disposition the benefit

of all our engineering studies and records relating to the projected development."

This offer was accepted by Newton D. Baker, the Secretary of War on February 20, 1918, who thanked the Company for its "generous and public spirited action." The letter of the Secretary was as follows:

February 20, 1918

Mr. James Mitchell
President, Alabama Power Company
Birmingham, Alabama
Dear Sir:

Referring to your letter of the 18th instant, addressed to Colonel Keller, in which you express the willingness of your Company to donate to the United States certain properties and flowage easements needed for the proposed Federal Power Development at Muscle Shoals, I beg to acknowledge with thanks the Company's generous and public spirited action.

The further steps necessary in regard to the matter will be given immediate attention.

Very respectfully,
Newton D. Baker
Secretary of War.

The Company received a U. S. Treasury check for one dollar which is still held in the archives of the Company.¹

The gift to the government of our properties and dam site at famous Muscle Shoals took place shortly after the United States entered the war. It involved power resources which had been intended to play an important part in the Company's future.

Construction of the nitrate plant proceeded under an arrangement with American Cyanamid Company and its President, Frank S. Washburn, who patriotically devoted themselves to the building of this important war plant.

As construction of the nitrate plant proceeded it became apparent that electric power would be needed before the government's power plants could be constructed. Our Company had constructed the first unit of its new steam plant at Gorgas on the Warrior River in 1916, and foundations and other underwater work had been completed for additional units. The

¹See page 104 for an interesting sequel to this story.

Company had also acquired coal lands immediately adjacent to the site of the plant and planned a series of steam plants essential to economic operation of its system. By the utilization of the Company's foundations, plans, etc., time would be saved the government and power made available when the nitrate plant was ready to operate.

The Company then agreed to make available its foundations and underwater structures for a 30,000 kilowatt extension to the Gorgas plant which was then constructed in record time, together with a 90-mile transmission line from the plant to Muscle Shoals. Power was delivered over this line to the government nitrate plants at Muscle Shoals from May, 1918 until the Armistice was signed on November 11, 1918.

This contract stipulated that construction should be done by the Company at government cost and required the Company to purchase the additional unit and other facilities after the termination of hostilities, at fair value, and this was done.

Before the Company acquired title to the Gorgas plant extension and transmission line, there was much discussion with regard to the rights and duties of the Government and the Company under the contract.

Secretary of War Weeks had said:

"Well, I think the Alabama Power Company, which is under the Public Service Commission of Alabama, would be inclined to take a broad and generous view of any matter in which the Government might be involved. Their record seems to indicate that. They turned over property at Muscle Shoals to the Government at the beginning of the war which had cost something like \$500,000, and so far as I have been able to observe, I do not think they would be contentious about these matters.

". . . If anybody is going to buy that particular property, the Alabama Power Company is the natural purchaser."

And in the report of the Senate Committee on Agriculture, Senator Norris had said:

"It (The United States) agreed with the Alabama Power Company that upon the completion of Muscle Shoals it would sell to the Alabama Power Company its interest in the Gorgas plant and the transmission line, and the contract itself provided for a method of

appraisement of the Government's interest, if an agreement could not be reached by direct negotiation . . .

" . . . The Government should make the sale and should insist on securing a fair price for the value of its interest."

After the war the Secretary of War fixed the fair value of the facilities. The Company paid \$3,472,487.25, the sum so fixed, to the United States on September 24, 1923, and the facilities were conveyed to the Company. The government thus realized over 72 per cent of the cost as against an average of only 8.4 per cent for other war-time property.

Two undertakings of the government at Muscle Shoals were incomplete when the war ended. One was a 60,000 kilowatt steam plant for the nitrate fixation operations, which was finished shortly after the end of the war. The other was the famous Wilson Dam. Congress continued to make appropriations for a year or two for the construction of Wilson Dam, but when \$17,000,000 had been spent, further appropriations were refused and work was suspended. Shortly thereafter, the Secretary of War sent a letter to various industries and utility companies in the area asking whether arrangements could be made whereby the government could realize a reasonable return on the investment in the dam.

This letter went to Henry Ford, among others, and to Alabama Power Company. In July, 1921, Mr. Ford offered to buy from the government the steam plant at Muscle Shoals and the additional steam unit at the Gorgas Steam Plant which we had constructed with Government funds, together with the transmission line connecting them. He proposed also to buy the nitrate plants, and that Wilson Dam be completed at government expense and leased to him for 100 years.

It was explained to the Ford representatives that the government had contracted to sell the Gorgas unit and transmission line to Alabama Power Company at the time of building. Every effort was made to persuade them to eliminate this provision of the offer; the Company offering the fullest cooperation with Mr. Ford should this be done. All of our efforts met stubborn refusal.

After careful analysis of the Ford proposal (and the refusal to modify), officials of Alabama Power Company submitted an offer for the acquisition of certain parts of the Mus-

cle Shoals situation. This offer, submitted February 15, 1922, proposed to purchase the Government's interest in the Gorgas unit and the transmission line and the Muscle Shoals steam plant. The Company also offered to complete Wilson Dam at its own expense, and to operate it under provisions of the Federal Water Power Act. The Company proposed to install 240,000 horsepower initially, and additional installations as necessary. The Company offered to sell the Government or its nominee power for the operation of the nitrate and fertilizer plants, at rates to be fixed by Government authority and also to furnish free to the government or its nominee the second 100,000 horsepower, towards operation of the government's nitrate plants and if this was not needed to purchase and pay for this power in accordance with a schedule of rates to be set forth in the license.

This proposal would have left the government in full possession of its nitrate plants, with plenty of free power to operate them directly or by others.

The subject of disposition of Muscle Shoals remained before committees of Congress for the better part of a year. Reports were finally made as a result of the investigation of these committees, but no action was taken by Congress. The offers of Henry Ford and of Alabama Power Company were both rejected, and the Ford offer was formally withdrawn before the convening of Congress in October, 1924.

Matthew S. Sloan and I had occasion later to discuss the subject with Henry Ford in Greenfield, Michigan, at the Golden Jubilee of the Invention of Edison's Incandescent Electric Light in October, 1929. Mr. Ford said frankly that he had not understood the situation when asked to submit his bid. "The logical plan," he said, "would have been to work with your group." He clearly indicated that he had been misled.¹

As with our gift, so with his bid, Mr. Ford set in motion more than he intended. The fact that Ford had made an offer stimulated new interest in the Muscle Shoals development. As a result, Congress appropriated additional money for the completion of Wilson Dam. The structure was completed in September, 1925, but in advance of this the Federal Power

¹See "Golden Jubilee of Light" in the Appendix, page 175 for more details of this meeting.

Commission sent out letters on November 24, 1923, to various power companies in the area requesting information on prices which could be obtained for electricity available from Muscle Shoals. As a result of this inquiry, Alabama Power Company and eight other power companies submitted a joint offer to lease the Muscle Shoals hydro power plant for a period of fifty years for \$100,000,000, or \$2,000,000 per annum. This represented a return of 5% on the \$40,000,000 investment which the government had there. The nitrate plants and steam plants were not included in this offer, and the government would have retained the right to take over the property in time of emergency. The offer also included a proposal to furnish power at actual cost to operate the government's nitrate plants at all times. The entire property was to revert to the government at the end of fifty years.

This offer was neither accepted nor declined. The disposition of Muscle Shoals continued to be delayed. In March, 1925, President Coolidge appointed a group known as the Muscle Shoals Inquiry Commission, to make an investigation and to report on the most practicable method of utilizing the government's properties. This Commission recommended legislation for private operation in line with the specific purposes mentioned in Section 124 of the National Defense Act of 1916. Government operations were recommended only as a last resort.¹

No action was taken, however, on the recommendations of this Commission.

After this, Congress created a joint committee to consider and recommend a bill for leasing the Muscle Shoals properties for private operation for production of fertilizer and promotion of national defense. The resolution also directed the committee to conduct negotiations for the lease of both the power facilities and nitrate operations. Offers came from sev-

¹A complete statement of the Company's position was set forth in various public statements; including letter to Senator Heflin, Cong. Rec. March 9, 1926 (Vol. 69, 70th Cong., 1st Sess., pp. 4570-2); Senate Doc. 222 pts. 1 and 2, 71st Cong., 3d Sess.; Memorandum Concerning Conditions Under Which Surplus Muscle Shoals Power is Sold to Alabama Power Company, published by Alabama Power Company, February 10, 1931; Hearings Before House Military Affairs Committee on Tennessee Valley Authority, 1935, p. 286.

eral industrial concerns and one was submitted by thirteen public utility companies operating in the southern states.

This latter offer was submitted in the names of Muscle Shoals Power Distributing Company and Muscle Shoals Fertilizer Company. The joint committee of Congress recommended its acceptance and this recommendation, in the form of a bill, was introduced into Congress. No action on the bill was taken by Congress.

After the completion of Wilson Dam and its hydro generating plant, the government operated the plant and sold surplus power at the switchboard in varying amounts to Alabama Power Company on a day to day contract in place of power which would otherwise be generated by its steam plants. Under the contract, the Company agreed that it would not operate its steam plants so long as power from the Muscle Shoals hydro-plant was available, except in emergencies, and would pay the government a sum equal to the cost of coal and labor thus saved in its steam plant operations. The price paid at the switchboard for such power ranged from 2 to 6 mills per kilowatt hours.

It is interesting in the light of events to record that payments were made by Alabama Power Company to the government for Muscle Shoals power between 1921 and 1933 in the total amount of \$7,231,118.

In order to buy this power from the government, our steam plants were kept idle but ready for service if Wilson Dam power should suddenly become unavailable. This actually happened on one occasion in 1926 when the chief of engineers gave notice that a new arrangement would go into effect immediately, under which it was impossible to continue supplying power to us. The Company was able to pick up the load with its own steam plants. Later a satisfactory adjustment of the problem was made and the taking of power was resumed.

We were willing to buy the power and use some of it on our own system and pass the remainder along to other utility companies in the southeast, but, as the government reserved the right to cancel the contract at any time without notice, we could not rely on such contract to furnish power to our customers or other utilities; so by formal letter to the Secretary of War, September 4, 1928, we offered to lease the properties for five years, paying a minimum of \$2,220,000.00 per annum

rent with the Government retaining the right to cancel the contract on eighteen months' notice. This offer would have been sufficient to pay all operating and maintenance expenses, plus depreciation, and in addition afford the Government a net return of approximately 4% on its investment.

The Government, as will be seen, received a number of offers for the lease of Wilson Dam (Muscle Shoals) which would have afforded a good return on the money invested. But there were active in Congress small groups who were determined to establish the Federal Government in the power business. With the federal foot already in the door, these groups came to ascendancy under the New Deal, as the next chapter shows.

* * *

An interesting sequel to the gift of Muscle Shoals site came a few years later when our advertising manager innocently published in POWERGRAMS, the Company's house organ, a photograph of the U. S. Treasurer's check for one dollar in payment for these properties. We were advised that it is a federal offense to photograph or otherwise reproduce such checks and were fined \$500.00 for the oversight.

The loss we suffered in making a patriotic gift of our Muscle Shoals properties to the government foreshadowed events in future which were to make the properties world famous for government competition with private enterprise in a philosophy hitherto deemed not at all American. But through the coming years before these events took place Alabama Power Company was destined to be exercising its freedom and enterprise elsewhere in monumental upbuilding and serving of a state. The gift at Muscle Shoals in a time of national crisis is something the Company remembers with pride no matter how it came to be used against us, and against what we still deem the philosophy and best interest of our country.

CHAPTER EIGHTEEN

T. V. A.

UNDER Franklin D. Roosevelt the Tennessee Valley Authority was created.

Over and over in the years of our power purchases from the Government we were confronted with statements that "the Power Company is buying government power at two mills a kilowatt hour and selling it at ten mills." The shred of truth with which this inaccurate accusation clothed itself was that we did buy some power at two mills a kwh from Wilson Dam, some at a much higher rate; but in no year did it exceed three percent of the total generation of our system. Other factors in the situation made the cost to us more than ten mills because it was necessary to maintain our steam plants in idleness but always ready to pick up the load if necessary. This added greatly to the real cost of Wilson Dam power.

A number of bills had been introduced in the late twenties for operation of Wilson Dam by the Government. One such bill received a pocket veto by President Coolidge; a second was vetoed by President Hoover. Subsequently, at the suggestion of President Hoover, a commission of nine was organized, consisting of three appointed by the Legislature of Alabama, three by Tennessee, and three by President Hoover, to study the Muscle Shoals problem and recommend what action should be taken. This commission recommended in a comprehensive report to President Hoover under date of November 14, 1931, that the plants be operated primarily for quantity production for fertilizer, for research and betterment of agriculture and for the manufacture of chemicals. It also expressed its "definite conclusion" that the "foregoing public benefits can best be obtained by private operation. . . ." Congress took no action. It must always remain significant that the representatives, designated by the legislatures of Tennessee and Alabama, favored private operation of both the nitrate and the power facilities.¹

¹See Appendix for details of Muscle Shoals Commission.

It was in these circumstances that the power question was injected into the presidential campaign in 1932. The views of Mr. Roosevelt were somewhat vaguely stated in a speech at Portland and again at Milwaukee, in which he advocated the setting up of yardsticks to "guarantee good service and low rates." He also significantly referred to the Government's plant as a "birchrod in the cupboard."

The Tennessee Valley Authority was created by act of Congress approved May 18, 1933. The general purpose, as outlined by the act, was to develop the Tennessee River system in the interest of navigation, flood control and national defense, and to generate and sell surplus electricity.

At the time the act creating TVA was passed there was a surplus of power generating capacity in the area. It was clear that if power was to be sold by the Government from Wilson Dam it could be done only in markets which had already been developed by the private utility companies.

This was easy if you had the money to buy these markets. TVA adopted the policy that it would construct generating facilities and transmission lines, but that municipalities or co-operatives should provide their own distribution systems. The Public Works Administration, however, offered loans at low interest rates to the extent of 70% of the cost of a distribution system, and an outright gift of the remaining 30% of the cost. This was soon followed by a more generous offer, a gift of 45% of the cost and a loan of the remainder at low interest rates.

But under PWA rules these loans were not available for purchase of existing privately owned distribution systems. They could be used only for the construction of duplicate facilities.

This technique in effect destroyed property of the private utilities in many communities and placed the companies in an impossible position to bargain for the sale of their distribution systems.

The technique had its effect on the market value of the securities of Alabama Power Company. In December, 1933, \$7.00 Preferred Stock of this Company sold on the market for \$25.00 a share. Our long term 4½ and 5 percent bonds fell to lows of 44 to 47.

On January 4, 1934, The Commonwealth & Southern Corporation and certain of its subsidiaries including Alabama Power Company entered into an agreement to sell to the TVA electrical utility properties in three states for which the TVA agreed to pay \$2,900,000. Included was the present site of Joe Wheeler Dam, also owned by Alabama Power Company. Certain preferred stockholders of the Company, contending that nothing in the act creating TVA authorized such acquisition of electrical utility properties, brought suit to prevent this sale. The United States district court upheld the stockholders in their contention on February 26, 1935, but when the case was appealed and finally reached the Supreme Court early in 1936, the validity of the contract was upheld. Accordingly, on May 1, 1936, Alabama Power Company conveyed to the Tennessee Valley Authority the site of Wheeler Dam and certain utility properties in northern Alabama.

Government agencies continued their inducements to public agencies of loans and gifts with which to duplicate the systems of the Company. In view of these continued encroachments, eighteen electric utility companies in the area, including Alabama Power Company, filed a suit against Tennessee Valley Authority in the United States court for the Eastern District of Tennessee on May 29, 1936. They sought to enjoin the Authority on broad constitutional grounds from generating, distributing and selling electric power in the area served by complainants. The district court denied the injunction in 1938 and dismissed the bill. The complainants then appealed the case to the Supreme Court. On January 30, 1939, that court affirmed the judgment of the court below and handed down an opinion which declared that despite the damages claimed by complainants, nevertheless they had suffered no legal injury recognizable at law, as the franchises under which they operated were non-exclusive and, so did not protect them from competition.

Faced with this impossible situation, the private utility companies serving the area chosen by TVA as its market had no choice but to sell their electric properties in the competitive areas to TVA and its distributing agencies.

Alabama Power Company and Mississippi Power Company then sold to TVA important parts of their power systems at substantially less than book value.

Tennessee Electric Power Company was forced to sell out altogether. Operating in a large part of Tennessee, it had developed an excellent system and was publicly recognized as an efficient and useful public servant. It owned the Cove Creek dam site on the upper Tennessee (since developed by TVA as Norris Dam) and had applied to the Federal Power Commission for a license to develop it and several other sites on the Tennessee River. The license was never granted, for TVA was planning a great storage dam at Cove Creek and transmission lines to connect the plants at Muscle Shoals. As the government plans developed elections were held in a number of cities and towns in Tennessee looking to the operation of competitive electric systems under the slogan of cheap power. Majorities voted in favor of going into the business. Following the action of the Supreme Court, Tennessee Electric Power Company decided to make the best bargain it could with TVA and the various municipal corporations. This was effected by Wendell L. Willkie,¹ then president of The Commonwealth & Southern Corporation, acting for the Tennessee Company. The agreement provided for the payment to the Company of \$78,600,000; a sum substantially equal to the outstanding bonds and preferred stock; leaving a large loss for the common stockholder.

* * *

TVA is big business today, by act of Congress. June 30, 1950, Congress had appropriated funds and transferred property to it in the total of \$872,260,040.

Section 13 of the TVA act as amended provides that its property, franchises and income, are exempt from taxation in any manner or form by any state, county, municipality or any subdivision or district thereof. TVA is required, however, to make certain payments to states and counties in lieu of taxes. These are fixed by the statute for fiscal year 1949 and subsequently at 5% of the gross proceeds of the sale of electricity. For the fiscal year 1950 payments by TVA in lieu of taxes amounted to \$2,050,437.

The installed capacity of the TVA system as of June 30, 1950, was 3,000,000 kilowatts. Plants now under construction will bring capacity, by the end of 1954, to about 6,700,000 kilowatts in steam and hydro plants.

¹See Appendix.

Rates charged by TVA for electricity are slightly lower than those charged by Alabama Power Company.

The future will have to appraise the social and economic value of TVA and its consequences.

CHAPTER NINETEEN

FULL STEAM

WE closed our dispute with the Tennessee Valley Authority in 1939, with the definite feeling that TVA would confine its operations to the area in North Alabama from which we retired. TVA had suggested that the problem of operating territory would solve itself when it had acquired a market which would absorb its power supply. Ultimately TVA acquired such a market. Since 1939 our relations with TVA have been satisfactory; power has been sold or exchanged between TVA and The Southern Company group, of which Alabama Power Company is a member, and each has helped the other in emergencies that inevitably arise in large system operation.

The relationship has now for more than a decade been a pleasant one, and illustrates that government and industry can sometimes work in harmony for the public benefit and to the mutual benefit of each.

A radical change was now coming about in the point of view of power technicians. It was realized that steam plants had virtues for power production and system operation which hydro plants did not have; especially as there had been great advances in the efficiencies of steam plants. Thus, when we were in a position to go on with our construction program, it was, quite literally, "full steam ahead."

A misconception exists in the public mind concerning the cheapness of water power. Theoretically a stream with a given fall will develop a definite amount of power. But it does not follow that the power can be developed economically. Conditions may make the capital cost prohibitive. The cost of the lands may be excessive. The character of the foundations at the site may make the structure insecure except at prohibitive cost. The flow of the stream may be so small or variable that it cannot produce, over a given period, sufficient power to justify construction. The location may be too far from load centers, entailing tremendous cost for transmission lines. Any

one of a number of factors may seriously affect the value of sites considered for water power development.

With improved efficiencies in the operation of steam plants, serious consideration had to be given to the question whether water power, even under the most favorable circumstances, was more economical than fuel power.

In 1882 Edison thought that ten pounds of coal per kilowatt hour of electricity was good. By 1891 F. R. Low reported to the National Electric Light Association on a station which had, on occasion, operated on four pounds of coal per kilowatt hour. By 1919 steam generating stations had required an *average* of 3.2 pounds per KWH but in the most modern steam plants of Alabama Power Company today an efficiency of less than .9 (nine-tenths) of a pound of coal per kilowatt hour has been achieved, and there is every reason to expect this efficiency to be still further improved.

Many engineers feel that most of the large utility power generating plants in the foreseeable future will be fuel-fired. The trend away from hydro developments and in the direction of fuel-fired steam generating stations is not confined merely to Alabama Power Company.

A steam power plant performs rather simply. Coal or gas is fed into one end, and electricity comes out at the other. Within itself, however, the plant is a complicated assembly of thousands of parts, large and small, and miles of pipe, conduit and cable. At our Gorgas No. 2 plant, which is typical of all the steam stations of the Company, when coal is used to fire the boilers it is first pulverized as fine as flour, then blown into the fire boxes through giant nozzles, where combustion takes place instantaneously. It is possible to look into the fire boxes through little peepholes and see a sight that can best be likened to an inferno. Steam is generated in the boilers to a pressure of 1325 pounds to the square inch, then superheated to a temperature of 950 degrees. Because of this extremely high temperature of the steam, special alloys of metals must be used for piping and other equipment. The generator operates at 3,600 revolutions a minute in a sealed hydrogen-filled chamber. After the steam has turned the turbine, it is condensed and the water thus obtained is returned to the boilers. When it is necessary to add water to the boilers, only distilled water is used.

There had been little construction during the thirties. The Company had extended its high voltage transmission lines here and there and added new customers, both rural and urban, but it did not build a single new generating plant during that decade.

There were several reasons. Depressed business conditions discouraged new construction in all business enterprises. In addition, the controversy with TVA had so adversely affected the market value of the securities of the Company that it was not feasible to finance new generating plants.

To provide further assurance to investors in Company securities, the legislature of Alabama in 1939 passed an act which, in substance, would require cities and towns to endeavor to take over Company distribution systems before duplicating them. This act was passed with but two dissenting votes and approved by Governor Dixon on August 18, 1939. On the same day we announced the beginning of the construction of the Chickasaw steam plant at Mobile.

The final settlement with TVA in 1940 did much to restore the credit of the Company. This improved credit position, together with a lowering of interest rates in general, enabled us by 1942 to refinance our entire outstanding bonded indebtedness.

With our improved position, a large construction program of new generating plants was undertaken which, although limited during the war years, has continued to this day; discussion of which is contained in Chapter Twenty-Seven. Except for addition of units at hydro plants, where provision had previously been made, this program was confined entirely to steam generating stations, transmission and distribution lines.

CHAPTER TWENTY

ARBITRAMENTS OF WAR

WORLD WAR II, like all others, was an arbiter of many things, while it went on, and when it was over. It turned old plants to new uses, brought new plants to Alabama and created in its wake an immense problem of reconversion.

In this Alabama Power Company had a central part. It became our task to join with others in seeking for Alabama its share of the war industries and to produce additional electric power which industry would require. It was equally our task, afterwards, in our own interest and the State's, to preserve insofar as possible the sum total of economic activity the war had created.

Decentralization of industry had been prescribed by America's economic doctors long before World War II came, and was already beginning to be felt. Early in 1940 we circulated a statement reviewing proposed locations of new war plants and suggesting that

"unless our leaders take prompt and positive action, we will again miss a great opportunity to forward the development of Alabama and, at the same time, do our part in the defense of our country. This would mean additional employment for skilled and unskilled men and women at good wages, and help to keep Southern boys and girls—our greatest asset—in the South.

"Let us bear in mind this very definite fact, that after the war is over, these plants will have some facilities which can be put into production for peacetime purposes."

I had been much impressed with a point made by Mr. Chester C. Davis of the National Defense Advisory Commission. Wars, he said, have a tendency to confirm or fix industrial patterns whose formation may have been influenced or determined by emergency war conditions. Those areas which are given the industrial advantage over others, even though

originally gained as a wartime expediency, are inclined to maintain that leadership even after the emergency passes. It was pointed out by Mr. Davis that this held true in this country even as a result of the War Between the States. Industries of the North expanded enormously to supply the war effort of the North; while industries of the South which expanded and those newly created as a result of the conflict were largely destroyed during the war or rendered ineffective in the tragic era which followed. As a consequence, the North maintained the industrial impetus given by the war, while the South remained for decades in comparative industrial stagnation.

"Likewise," continued Mr. Davis, "in World War I, industrial expansions and new enterprises took place close to the existing centers of industrial activity, thus reinforcing and hardening this already over-concentrated industrial pattern."

It seemed to me that as patriotic Americans as well as southerners we should hope that this same situation would not be repeated in World War II.

Discussing the decentralization of defense plants, Donald Comer, chairman of the board of Avondale Mills, told the Agricultural Committee of the United States Chamber of Commerce, on September 26, 1940, that—

"In urging decentralization of industry, with its accompanying economic and social values, the rural areas of our country would not, even if they could, take advantage of immediate defense needs to press for the spending of Federal defense dollars in rural areas. The immediate and pressing defense needs would naturally have to come from the old supplying areas. It was natural that these first orders would follow the same pattern of placement as in the first World War.

"Our concern, however, is all the more understandable when it is recalled that the pattern of buying in the last war, in going in such tremendous amounts to the established industrial areas, had the effect for the time being of reversing the orderly decentralization that was then going on in moderate proportions."

Quoting from the statement of Alabama Power Company, Mr. Comer commented:

"This company has charted our area and has all information in detail on those points that would be of interest for

the location of defense industry. Their services are tireless and complete in these matters, and while their immediate concern has to do with securing a power customer, their broader concern is for State and Nation."

One of the largest of the new defense projects to come to the South was a huge smokeless powder plant near Childersburg, Alabama, employing over ten thousand Alabama workers. This vast enterprise did not come to the Alabama location of its own accord or merely in the natural course of events. Industrial engineers of Alabama Power Company were tramping over this location a full year before the decision was made by the War Department to place the plant at Childersburg. Reports were made on this location and submitted to Washington detailing the unique advantages for this particular enterprise—and were followed by personal contact with proper authorities, pointing out the manufacturing economies to be had at this site, and of the need of our Alabama people for defense industries.

We accomplished much, but our best efforts—and those of others who sought a more proportionate share of the nation's economy in this time of war—left much to be desired.

With 17% of the nation's population, the South received only 6% of the war expenditures. But a lasting good came of this relatively small expenditure for it proved the intelligence and aptitude of the southern worker and demonstrated how quickly he learns new skills and techniques. It provided a large labor force of skilled workmen theretofore unavailable in the South.

With these assets in mind we set to work after the war to retain for Alabama in peacetime as much as possible of the industrial increment war had brought.

Representatives of the Company, who had worked closely with government agencies in selecting locations for war plants in our area, gave consideration now to peacetime uses that would salvage some of the enormous expenditure and continue to provide employment utilizing the skills acquired by former operatives and contributing thus to an economy of peace.

After the cessation of hostilities, studies were made of facilities that would be made available to private enterprise, as well as of products that could best be made with existing fa-

cilities. Representatives of the company were instrumental in organizing committees for action in this direction. The result of these efforts is eloquent in the list of major peacetime plants established from former war plants. The largest of these was the Coosa River newsprint plant, which is discussed in the following chapter.

There were many others. At Talladega the government had built its so-called Brecon Plant for loading into small bags the powder produced at its huge Childersburg powder plants a few miles away. It was capable of being converted into many small peacetime operations. A corporation was organized by citizens of Talladega in 1946, under the leadership of Herbert M. Ponder, to take over this plant. The corporation purchased the facilities from the War Assets Administration, many of which were disposed of to manufacturing concerns. Goodall-Sanford, Incorporated, purchased a large part of the Brecon Plant and turned it to manufacture of clothing for men and boys. Several smaller plants were also located on the Brecon properties.

These new plants at Talladega will, it is estimated, give employment at full operation to some 2,000 persons.

* * *

Noteworthy, too, was the Beaunit Mills plant at Childersburg. Our survey of the two units of the smokeless powder plant there had indicated one of them as useful for textile manufacture. The fact was brought to the attention of rayon yarn producers. Beaunit Mills, a leading producer of rayon yarns, was given a long term lease by the government through a Beaunit subsidiary, the American Development Company. Sufficient acreage in the hitherto undeveloped area of the reservation was acquired and the transaction was successfully concluded with effective help of Alabama's congressmen, and our industrial engineers. Beaunit then established a rayon yarn plant at Childersburg, or Coosa Pines, as the site of operation is now called.

* * *

Allis-Chalmers Manufacturing Company established a plant at Gadsden for the manufacture of farm tractors and other important farm machinery. This former shell manufacturing plant was brought to the attention of Allis-Chalmers

by H. Neely Henry,¹ the manager of our industrial development division and was purchased in its entirety.

The A.A.A. Corporation was established on the former Camp Sibert property near Gadsden for the manufacture of sanitary ware.

Several new industries were located at Dothan for the utilization of facilities at the former Napier Field.

At Mobile, the Southern Gulf Lumber Company took over for manufacture of furniture the properties formerly used as a depot by the armed forces.

Oyster shells, rich in calcium carbonate, provide the basic raw material for the large and expanding plant of the Ideal Cement Company at Mobile, which was constructed soon after the close of World War II to help supply unprecedented demands for lime and cement. This resulted from the foresight of Ed. A. Roberts, one of Alabama's most useful citizens. Mr. Roberts has been the inspiration of many new industries; and of much that has added to the moral, spiritual and intellectual life of Mobile, and of the South.

* * *

Thus it was that many who came for war remained for peace and that through foresight, salesmanship, and acts of God, Alabama's industrial sum total—and our power sales—advanced. The arbitraments of war are harsh but wise men must heed them and the history they make.

¹Mr. Henry, a graduate of Virginia Military Institute, has been with Alabama Power Company since 1924. He has held the positions of office engineer, district superintendent, district manager and manager of the Company's Industrial Development Division. In 1951 he was made Vice President and Assistant to the General Manager. In August, 1952 he was made Vice President in charge of Employee Relations.

CHAPTER TWENTY-ONE

THE CROWN PRINCE

THE will, wits and organization put into efforts to convert Alabama war plants had their most noteworthy success in the case of the munitions plants at Childersburg in Talladega County. Rarely has a community been left with a more grievous problem or a more shining opportunity than when this Alabama Ordnance Company plant, costing some \$200,000,000 and employing thousands of workers, became idle at war's end.

A Talladega County War Plants Conversion Committee was organized as the result of efforts by the Company, the State Chamber of Commerce, local chambers of commerce, and other civic groups. Its first meeting was held in Birmingham on July 21, 1944, with representatives of Childersburg, Sylacauga and Talladega and of the Alabama State Chamber of Commerce attending. As chairman, I pointed out the tragic economic waste of letting these vast production facilities remain idle. On the suggestion of Robert Gregg, then president of Tennessee Coal, Iron and Railroad Company, the committee resolved that an engineering survey be undertaken of the entire area, including "the raw materials available, the plant facilities, the workers available, future possible products, future markets and prospects." Later the Committee met with J. E. Serrine and Allen A. Bedell, of the engineering firm of J. E. Serrine & Company, of Greenville, South Carolina, to discuss the survey. Messrs. Serrine and Bedell indicated that the work would cover many months and the cost would be substantial. The Power Company agreed to assume the largest part; a contribution we deemed wise since so great an economic increment for Alabama was involved.

After months of study the engineers reported that the No. 1 unit of the Alabama Ordnance Works, with its 25,000 kilowatt electric power plant, its water facilities and rail connections, could be utilized for the manufacture of newsprint

paper from southern pine. It was proposed that the No. 2 unit, with a 15,000 kilowatt electric power plant, be used in the manufacture of various textiles, including rayon, and that the Brecon bag loading plant at Talladega would be suitable for sundry operations. Still another unit, with acid-making equipment, was found suitable for manufacture of certain chemicals, especially sulphuric acid.

A newsprint paper mill for Alabama would mean jobs and payrolls for our people and, most important of all, an enormous new use for southern pine.

In 1921 Edward W. Barrett, editor of The Birmingham Age-Herald, tested his belief that newsprint could be made of southern pine by having an issue of his paper printed on newsprint which he had persuaded a Canadian paper manufacturer to make of this pine. In 1931 the Southern Newspaper Publishers Association had organized a standing newsprint mill committee with this objective.

In his laboratories in Savannah, Dr. Charles H. Herty labored to overcome certain unsatisfactory aspects of the product. More than any other man of science, he contributed to the long hope. In 1934 I joined with Victor H. Hanson, then publisher of The Birmingham News and Age-Herald, and E. J. Smyer, of Birmingham, to call a meeting in the Power Company auditorium at Birmingham which was attended by some 200 interested parties within and outside the state. Read at this meeting was a message from Dr. Herty, concluding with never-to-be-forgotten words—

“God offers you this in the form of the sunshine of the South and its climate, to be utilized for the benefit of your people. The production belongs naturally to the South—belongs to the wastelands of the South—belongs to the lands now being bought up and taken out of cotton production.”

When other parties organized the first southern newsprint mill in Lufkin, Texas, and it proved successful, efforts quickened to make Alabama the scene of the second. Victor Hanson, one of Alabama's most patriotic and loyal citizens, took a leading part in keeping the subject before the Southern Newspaper Publishers Association. He was enthusiastic over Demopolis, Alabama, as a site.

But the coming of World War II closed all immediate prospects and activities.

In 1945, shortly after the formation of our Talladega County War Plants Conversion Committee, Victor Hanson died. He had become interested in the possibilities of the Childersburg plant. He was succeeded on the Southern Publishers newsprint mill committee by his nephew, Major Clarence B. Hanson, Jr. This committee, with Major Hanson as chairman, agreed to give another group than our Talladega one six months to work out plans for construction of a newsprint paper mill, and not to negotiate with anyone else in that period. But when the period expired late in 1945, discussions previously undertaken with our committee were resumed through Major Hanson. Donald Comer joined the committee on the suggestion of his brother, Hugh. At a meeting of the newsprint mill committee in Atlanta, January 27, 1946, after hearing from Donald Comer, Allen S. Bedell and the writer on behalf of the Talladega committee, the publishers formally selected the Childersburg site for a newsprint mill and authorized Chairman Hanson to cooperate with us in the project there.

The following month representatives of the publishers' newsprint mill committee and the Talladega committee went to Washington to ascertain the attitude of government officials. They were encouraged to proceed. Therefore, on March 11, 1946, the Talladega committee met at the board room of the Power Company. The minutes show that on my motion it was resolved that a corporation be organized in Talladega County under the name of Coosa River Newsprint Company. This was done on March 18, 1946, by filing the certificate of incorporation which was prepared by Walter Bouldin.¹

For its historic significance the names of the original twenty incorporators are here set forth: Donald Comer, Hugh Comer, J. W. Brown, Jr., E. L. Widemire, C. B. Hanson, Jr., Thomas W. Martin, H. A. Parker, Hugh McElderry, Dr. R. P. Stock, T. Marcus McClellan, Jr., L. E. Bashinsky, L. M. Smith, Walter Bouldin, J. M. Hightower, T. W. Strickland, Henry Schwartz, Morris Goldberg, W. H. Cliett, M. D. Donahoo and Ben S. Hosey.

¹See Walter Bouldin, page 125--end of page.

Edward L. Norton of Birmingham joined the Company later and was elected its president.

Negotiations with the government finally resulted in a lease and purchase agreement of June 30, 1947, eminently fair to the government and to the lessee.

Alabama Power Company granted the newsprint company exclusive right to cut pulpwood on 50,500 acres of Power Company lands in the area. This was done to help assure a source of raw material and thus assist the organizers of the newsprint company in obtaining experienced management and financing.

The part of Alabama Power Company in this effort was undertaken solely as a public service, since power requirements of the newsprint plant are supplied by the generating facilities leased from the government. To make feasible the development, however, it was necessary for the Power Company to assure the Newsprint Company of a power supply in the event the government decided to re-activate its powder plants. The Power Company entered into a contract to this effect. Commenting on it, Donald Comer, chairman of the board of the Newsprint Company, and chairman of Avondale Mills, said:

"This assurance is of very great benefit to the newsprint company, for while the Power Company must stand ready over the years to supply power in event the government withdraws its generating facilities, the Power Company receives no return whatever. This is an illustration of what I mean when I say that there could be no newsprint mill were it not for the Alabama Power Company."

In view of the position of the Kimberly-Clark Corporation in newsprint manufacture, the Coosa Company arranged with Kimberly-Clark to assist in the design, construction and management of the mill. That also involved a large investment by Kimberly-Clark in the common stock of the Coosa Company.

The author wishes to pay high tribute to Clarence B. Hanson for his untiring efforts in presenting the program of the Company to newspapers in eastern United States, resulting in large subscriptions to the common stock of the Company without which the enterprise could not have succeeded. He was

aided in this particularly by Edward L. Norton and Donald Comer. The writer wishes also to pay high tribute to the officials of Kimberly-Clark, especially to Cola G. Parker, its president, and Ernst Mahler, executive vice president, for their many contributions to this successful program.

The Coosa River Newsprint Company completed the construction of its newsprint plant at Childersburg at a cost of about \$32,000,000. It employs hundreds of people in its manufacturing operation; still others in its forestry and woodland operations. It produces something over 100,000 tons of newsprint annually and has excess capacity in sulphate pulp which it sells. The annual payroll is in the order of \$3,000,000.

* * *

Alabama will not come into her own so long as she sells her raw materials. An industry that can convert cord wood into paper, like one that can fabricate Alabama pig iron and steel into tractors and machines, helps Alabama to her economic maturity. A cord of pine wood for fuel is worth something like \$5.00 or \$6.00. A cord of pine wood made into newsprint paper is worth something like \$100.00. In that difference lies a measure of what the newsprint industry means to Alabama.

WALTER BOULDIN

Walter Bouldin was born in Scottsboro, Alabama, and is the son of the late Justice Virgil Bouldin of the Supreme Court of Alabama, and Mrs. Bouldin. He was educated in the public schools and the University of Alabama where he was graduated with an A.B. degree in 1925, and at Harvard Law School, graduating in 1928 with degree of LL.B. Coming to Birmingham he joined the law firm of Martin, Thompson, Foster & Turner, counsel for Alabama Power Company, Mr. Bouldin becoming a partner in that firm in 1935. The firm at the time of his election was Martin, Turner, Blakey & Bouldin. His legal work has, in recent years, been more largely in the fields of finance in connection with the various security issues of the Company and of regulatory bodies having supervision of the affairs of the Company. The thorough knowledge of the affairs of the Company gained over many years, made him unusual qualifications for the new position to which he was elected by the Board of Directors on August 22, 1952.

CHAPTER TWENTY-TWO

AFFECTED WITH A PUBLIC INTEREST

INCREASINGLY as the years went on Alabama Power Company was conscious of its citizenship. Not only legal citizenship with the special responsibilities and controls society imposes on a public utility, but the citizenship which, without regard to legal status, makes an organization like ours so naturally a member of a community in its own enlightened interest, growing as the community grows, and the community growing as it does.

A public utility is defined as "a business affected with a public interest—such as the supplying of a community with gas or electricity. . . ." It has needed no rule of court to tell our company, more and more, how the public interest is our own interest, especially in such causes as conservation of the great natural resources of our state, development of its trade and commerce, and obtaining for it the multiplying boon of scientific research.

* * *

In the conservation of resources a balance is sought between needs of today and of tomorrow. In agriculture this balance embraces such matters as reforestation, protection of forests from fires, control of soil erosion, and wise use of land.

Soil erosion, the most serious enemy to conservation, was prevalent over most of Alabama in 1930. Someone has said that it takes nature hundreds of years to make an inch of topsoil but it can be washed away in one winter. The consequences of soil erosion are subtle but sure. It impoverishes and destroys the land, and in turn the people. The destructive effects of erosion were recognized even in colonial times, but it has been only within recent years that efforts at erosion control such as terracing, cover crops, fire protection and reforestation have been applied.

Our Company was doubly interested in soil conservation. It wished to promote the welfare of the farmers and it wished also to protect its own watersheds—and its reservoirs which

gradually fill with topsoil where there is erosion. In 1930 we began a program for development and protection of forest lands adjacent to our hydro plants and generally to stress the need of soil conservation. Since that time great things have been accomplished in Alabama through the soil conservation program of the United States. We are proud to have had some part in it.

Perhaps nowhere in the United States has more been achieved in control of soil erosion than in Alabama's Tallapoosa County under the leadership of that county's farm agent, Fletcher N. Farrington. Situated in the foothills of the Appalachians, the county is for the most part hill country; much of its land was gullied and eroded two decades ago. In 1932, Dr. P. O. Davis, director of extension work, Alabama Polytechnic Institute, appointed Mr. Farrington county farm agent of Tallapoosa. An estimated forty tons of fertile soil per acre each year was not an uncommon loss at that time on unterraced, cultivated fields.

When the Tallapoosa farmers were shown how the soil of their fields was washing into our Lake Martin, they cooperated eagerly in methods for control. A soil conservation association was organized and it bought equipment for building terraces on the land in Tallapoosa County. Within a few years more than 90% of all the cultivated land was terraced in some manner. To assist with this program, Alabama Power Company, at the request of the county, advanced part of the annual budget.

Where land was too steep for erosion to be controlled the farmer was advised to re-forest it. Much of the hillside land was set with slash and loblolly pine seedlings from state nurseries and those of the Power Company nursery.

Results of the efforts to control erosion and rebuild soil were dramatic. Cotton, the principal crop for many years, was doubled in yield per acre and there was a large increase in yield of corn.

Livestock raising and dairying became so important in Tallapoosa that plants were built to prepare dairy products for market.

I visited this region in the summer of 1947, and again in 1948, 1949 and 1950. The soil no longer looked impoverished, and neither did the people. On every side were fields of crim-

son clover, white Dutch clover, alfalfa, kudzu—and contented cows. Near sunset in 1950 we visited the barns of a seventeen-year-old high school boy who owned registered Jersey cows. The milking was all done by electric machines and the milk was chilled and prepared for market by modern electric devices. There was little drudgery in the operation. The farmers of Tallapoosa County were learning to substitute electric power for men and horses wherever possible.

Fletcher Farrington and his associates of Alabama Polytechnic Institute did a great work in Tallapoosa County by making possible new and more profitable uses of the land.

The soil, which under the conditions of other years, would have piled up in our Lake Martin, is staying on the farm now and so are many of the young men and women. Wiser land use policies have released other young men and women for industrial jobs.

We were proud of our part in soil conservation work. Not only did we contribute financially but we supplied many seedling pines used in reforestation in Tallapoosa and in other sections of the state. During the fall of 1933 a small nursery had been established by the Power Company near Jordan Dam. Longleaf, loblolly and slash pine seedlings produced there were mostly used during the first years to plant idle lands adjacent to our reservoirs on the Coosa and Tallapoosa rivers. Later, however, a larger nursery, with a capacity of from one and one-half to two million seedlings annually, was opened at Verbena. The company was one of the first to be awarded the Certificate of Good Forestry Practice by the State Chamber of Commerce.

We have taken an active part in the statewide promotion of dairy shows, too, cooperating with others in a program of better dairying in the state.

* * *

The late Henry Ford said "prosperity is simply the passing of things from one person to another." To serve and promote commerce in Alabama was to close the switch on the flow of economic current, and our company officials had it greatly in mind long before there was talk of a State Chamber of Commerce for Alabama. In 1936 at a luncheon session of the Dadeville Kiwanis Club I put forward the idea for a statewide organization and suggested to Benjamin Russell that he

consider heading up such a program. Reluctant at first, he finally consented to serve as its president.

The proposal met with public encouragement but it was necessary for those in industry and officials of Alabama Press Association, to take the lead. In 1937 C. L. Walton, vice president of the Alabama Press Association, and Webb Stanley, immediate past president, procured the passage of a resolution by the Association in support of such a statewide organization. They visited me and I readily agreed to work with them to that end.

We were convinced that the time had come for a state organization, in which not only the Power Company but other agencies of the state's industrial and civic life might join to present to the world and to our own citizens the opportunities existing in Alabama for the development of commerce and industry and the advancement of the social and cultural welfare.

Impetus was given the move when Dr. Charles Penrose, vice president of the engineering firm of Day & Zimmerman, came to Alabama on January 13, 1937 and talked before the Birmingham Rotary Club and other civic organizations. His talk, "Industry and the State," was a notable address. Many copies were distributed and were most helpful in bringing about a consciousness of the state's opportunity and promise.

On April 20, 1937, in behalf of a committee which had been formed, the author, as chairman, addressed the following letter to many citizens:

PROPOSAL FOR ORGANIZATION OF STATEWIDE CHAMBER OF COMMERCE

April 20, 1937

My dear Sir:

Numerous suggestions have been made within recent months looking to a statewide Chamber of Commerce or its equivalent.

It is apparent that there will be increasing activity in the South, having in view the creation of new or the expansion of existing industry.

It is, of course, obvious that every proper effort should be made to interest capital in the development of our resources, for only by converting our raw materials into finished products can we hope to improve the gen-

eral economy of our section; thus giving opportunity for employment of thousands of the people of our State who for lack of employment must eventually move to other parts of the Nation.

It is also apparent that the social programs of the present day cannot be carried forward without greatly expanding the tax bases, and that from every point of view the citizenship of the State should recognize the problem and join in those activities which would seem best capable of heading up in a statewide organization.

You are doubtless advised of the formation recently of a committee of newspaper publishers with the very excellent plan "to promote new industries and to protect existing ones;" and of the suggestions of the Chairman, Mr. C. L. Walton, Editor of the LaFayette Sun, in support of a statewide organization.

This communication is going to a number of citizens of the State, with the hope that they will each take the time to express to the undersigned Committee how they feel on the subject of this letter. If sufficient interest is expressed, a meeting will be called at some central point to work out a plan.

The letter invited comment from those to whom it was addressed. When many favorable responses had been received a meeting was called by the committee and held at the Tutwiler Hotel in Birmingham on May 12, 1937. This was one of a series of such meetings. It appeared to be the unanimous feeling of those present that the plan should go forward and the chairman was authorized to appoint a working committee. The new committee met at the Tutwiler Hotel in Birmingham on June 11, 1937. A constitution and by-laws, prepared at my request by William Logan Martin of the law firm of Martin, Turner & McWhorter, was adopted. I was elected chairman of the meeting, and Walter Bouldin served as secretary. Elected as first directors were:

J. B. Barnett, Monroeville, Alabama
Dr. H. G. Dowling, Tuscaloosa, Alabama
F. T. Richardson, Mooresville, Alabama
G. A. Cook, Montgomery, Alabama
Ernest F. Ladd, Mobile, Alabama
Benjamin Russell, Alexander City, Alabama
J. L. Perry, Birmingham, Alabama
C. L. Walton, LaFayette, Alabama
T. W. Martin, Birmingham, Alabama

Benjamin Russell was elected the first president, and Walter Bouldin secretary. Alabama State Chamber of Commerce was formally organized by filing copy of the constitution and by-laws in the office of the judge of probate of Montgomery County on June 12, 1937.

The State Chamber has served Alabama over the years under the brilliant and effective leadership of Benjamin Russell and his successors, W. A. Steadman, J. B. Converse, Frank P. Samford, Gordon D. Palmer and James L. Rankin. Thomas D. Russell, able and dynamic son of Benjamin Russell, was elected president in 1952. John M. Ward has done his part ably and well from the beginning, as the executive vice president of the organization.

* * *

SOUTHERN RESEARCH INSTITUTE

In that public interest with which the Power Company is affected, there is need, too, for a full place for Alabama in the increasingly swift race of science. It is a race in which none could hope to win singly but in which, by pulling together and pooling strength we might hold place and even lead. As Charles F. Kettering, great inventor of the self-starter, and of Diesel engine improvement and Ethyl gas fame and contributor of many another boon to modern living, has often put it, there is no mystery in the world; everything is simple, provided you have the proper understanding. Science is merely finding out how nature does things. "Its just as simple as that." The boon is there for the asking, which is to say, for the searching and researching. It is there for those who call science to their own particular circumstances. In many respects the South, coming late to science, might hope to leapfrog other parts of the country in scientific usage if its problems, assets and circumstances had benefit of scientific direction. Many major American manufacturing industries have been developed by research and invention since the turn of the century. They have created millions of jobs that were never dreamed of before. It has been said that—

"Every improvement contributing to the comfort, ease, and convenience of daily life has its origin in invention and development."

Other areas of the country have built their prosperity to a high level without the great natural wealth inherent in the lands and crops of the South. They have made up through research, invention and industrial development for a lack of resources.

With such thoughts in mind, Alabama Research Institute was organized in October, 1941, to provide for agricultural and industrial research in the South. Later the name was changed to Southern Research Institute when the idea attracted the attention of men with similar thoughts throughout the South. Operations began early in 1945 with a director and a single staff member. By 1952 the staff had grown to 100 men and women of whom 70 were scientists. Altogether, the Institute has carried on research for corporations, agencies and individuals in 23 states, and has been self-sustaining since October, 1945.

Officials of the Power Company have had the leading part in the establishment and growth of Southern Research Institute. The initial impulse came in the mid-thirties when Herbert C. Ryding, then president of Tennessee Coal, Iron and Railroad Company, accepted chairmanship of the Birmingham Industrial Board and invited Dr. Stewart J. Lloyd, dean of the School of Chemistry at the University of Alabama, to advise Birmingham's businessmen on the importance of a chemical industry for the district. Dr. Lloyd devoted much time to that study. Among his other suggestions was an industrial research organization. This aroused interest and talk, and when the Southern Association of Science and Industry, an organization conceived by Dr. George D. Palmer, also of the University of Alabama's School of Chemistry, met at Mobile in April, 1940, the idea received definite consideration by scientists from many parts of the South.

When the Alabama State Chamber of Commerce met in Birmingham on October 10, 1940, Dr. Palmer addressed it, at the invitation of President Benjamin Russell, on the need of the South for scientific research; and again urged that businessmen set up an organization. Following Dr. Palmer, I endorsed the idea for an organization, offering in behalf of the Power Company, to match contributions others might make. The response was so positive and enthusiastic that a committee was appointed to consider the subject. The committee con-

sisted of Benjamin Russell, David R. Dunlap, Walker Reynolds, Herbert D. Warner, Hugh Agricola, Robert Gregg, W. D. Moore, Milton H. Fies, Donald Comer, A. C. Michaels, L. H. Sessions and the writer.

After almost a year of study, and consultations with eminent scientists including Doctor Edward R. Weidlein, Director of the Mellon Institute of Industrial Research at Pittsburgh, the committee reported for organizing Alabama Research Institute under the laws of Alabama, as a non-profit corporation.

This was done in October, 1941, with a charter signed by 73 citizens of Alabama, all engaged in industry and commerce.

Benjamin Russell, who was named first chairman, died suddenly in December 1941, before the effort could be organized, and I was named his successor.

The arbitraments of war called a halt for a time but continued study and planning was given the new organization as the war went on. In the early part of 1944, with the challenges of a post-war era in sight and with increasing realization of the one-ness of the South in many subject matters of research, it was decided that the name should be changed to Southern Research Institute.

The initial big problem was one of raising capital funds with which to provide buildings and permanent equipment. It was the plan to employ scientists who would undertake to study specific problems for those interested, to be called sponsors. This work would be done in each instance under a contract with the sponsor on a cost-plus overhead basis; so that the capital funds would supply only the permanent equipment. A budgetary system was set up at the beginning with the announced intention that as soon as possible the income from sponsored research would take care of all the salaries of the personnel and other expenses. At the end of the first six months of active work, that is, by October 1, 1945, the Institute was on a sustaining basis from research and this has continued through the subsequent life of the Institute.

There were fine responses from railroad companies, banks, large and small industrial companies, locally owned insurance companies, telephone, natural gas and electric companies, and many individuals for capital funds. Alabama Power Company, taking deeply into consideration what scientific research could mean for the economic and cultural advancement of the

areas in which it did business and the adjacent ones throughout the South, offered several contributions to the capital funds, amounting in all to the sum of \$500,000, payable in each instance, over a period of years, when matched by others. The Company's offers were matched and its contributions made effective.

The plan of the Institute was patterned on that of the Mellon Institute with the help and advice of its director, Dr. Edward R. Weidlein. On October 4, 1944, Dr. Weidlein came to Birmingham and addressed a large gathering of guests of the Institute representing many business groups, southern colleges and scientific institutions.

Dr. Weidlein pointed out that it is only through useful knowledge that the people have gained the material blessings of our civilization; that every useful agent in our new civilization is the product of an industry, and that it is only through industries that these new products of civilization can go to the people. Dr. Weidlein further pointed out that the cooperation of science with industry has greatly increased the quality and quantity of research work and has been directly responsible for our increased standard of living.

"It is not what we know that is so important," he said. "It is what we do not know."

The address of Dr. Weidlein created a profound impression; there was no doubt left of the importance to the region of such an institution.

At this meeting, Dr. Wilbur A. Lazier, lately of the experimental station of E. I. DuPont de Nemours & Company, who had been appointed permanent director (Dr. Lloyd having served as temporary director) outlined the situation and program as he viewed it.

No meeting in Birmingham's history had aroused keener interest. The men of science, business and industry present seemed of one mind with Dr. Weidlein when he called this century the golden age of science and spoke of the great opportunity in the South for research on problems peculiar to our part of the country.

In my own address as chairman I undertook to offer the facts which made southern research so vital to our economy. Of 388,152 patents issued by the U. S. Patent Office in the 10-year period of 1934-1943, some 78 percent had been accred-

ited to the states east of the Mississippi and north of the Ohio and only 2.2 percent into the southeast. These differences were easily related to the fact that in 1939, the midpoint of this period, 70 percent of the value of the nation's manufactured production was in the area north of the Ohio and only 14 percent in our southeastern states.

The success and increasing recognition of Southern Research Institute since that beginning in 1944 must have a history of their own some day. When the Southern Association of Science and Industry honored me with its award at a luncheon meeting in Atlanta on October 18, 1950, for what Southern Research Institute had achieved, I could accept it as recognition of the work of the trustees, of the 200 members of the Advisory Council from all parts of the South, of the hundreds of contributors to our capital funds, and of the many scientists brought together at the Institute. I could quote the great Charles F. Kettering, who had come to be our inspiring visitor and friend, that "the future is an immense storehouse of inventions and discoveries just waiting for someone to come along and unlock the door. . . There are no terminal points in human progress. The story of our past accomplishments represents only the first page of the Book of Human Progress."

I could report also that Southern Research Institute, in operation for six years by that time, had capital funds of some two million dollars, a larger volume of research than at any time in its history and, located now in several new buildings, stood at the threshold of magically unfolding years to come.

* * *

The beginning of the Institute and its unfolding through the years has been the result of cooperation of many individuals who felt keenly the necessity of pulling together and pooling strength in the interest of science. In other words, men of the South came to realize that the American system of free enterprise is largely the fruit of research. No one person could have done the job; and it has continued to be one of cooperation over a wide area.

In a larger sense the Research Institute, through its scientists, represents the modern concept of team work in organized research; organized in the interest of bringing science to industry, as well as making a contribution to the war effort and to phases of medical science.

CHAPTER TWENTY-THREE

UNDERGROUND

MORE fortunate than some of its brothers in industry and commerce whose need Southern Research Institute serves, Alabama Power Company has been able to engage in experimental and research work of its own since 1920. Many developments have come of it. One of the most interesting and important has been experimental work in the underground gasification of coal.

On January 21, 1947, at Gorgas, Alabama, the first experiment of this nature in the United States was launched. Originally suggested by Milton H. Fies, manager of the coal operations of Alabama Power Company, this experiment was conducted under the guidance of Dr. Fies in the coal fields of the Company. It was a joint undertaking of the Company and the United States Bureau of Mines. In addition to donating the site, our Company agreed to finance this first experiment, the Bureau of Mines contributing laboratory equipment, technical assistance and direction. It was this attitude on our part which was primarily responsible for the location in Alabama of an experiment which is to be regarded as a historic, scientific event.

If coal can be effectively gasified in place, the cost of producing electric power will be greatly reduced and benefits to high cost coal producing areas, of which Alabama is one, will be immeasurable. Seams of coal too thin and inferior in quality for mining will become useful all over the world.

This Company's participation was prompted by desire for low cost fuel and to make a contribution to Alabama's coal industry. We were aware of the great potentialities of the development of the gas turbine in making electric power. The government's interest was prompted by hope of a low cost chemical gas from which gasoline, Diesel oil and chemicals could be manufactured on a commercial basis. A gas suitable for the purposes of both the Bureau of Mines and the Company was anticipated.

The initial experiment, while limited in size and scope, produced encouraging results and was regarded as successful by the Bureau of Mines and engineers generally. It was determined that there was no difficulty in maintaining combustion in coal strata in the earth and that such coal strata could be completely gasified.

When the accumulated data were scrutinized, it was decided that they warranted a second experiment on a more elaborate scale. Responsive to findings of our own engineers and those of the Bureau of Mines, the Power Company accepted the suggestion by the Bureau that we cooperate in a second test. This one, still in progress, involved an expenditure by the government of something over three-quarters of a million dollars. The Company contributed an area containing about one hundred acres of its coal isolated from the main body of its mineral property and located about one-half mile from the steam generating plants at Gorgas. In addition, the Company performs all the work, except technical chemical detail, at cost. The Bureau of Mines has planned, supervised and directed the work and financed the services and facilities employed in the preparation and operation.

The coal was fired in March, 1949. This phase of the experiment has been discontinued until the results can be appraised.

The process employed since August 1951 in the experiment involves the use of electricity in underground gasification. Holes were drilled from the surface to the coal seam, electrodes placed in the holes at the coal level, and by the continued application of current it was possible to raise the temperature of the coal to a point where distillation products were evolved, and over a period of time some permeability to air in the coal bed was achieved. Through the employment of electricity the temperature of the coal was raised to a point where combustion and later gasification with air were attained.

The results thus far indicate that the electro-linking process can probably be applied for connecting boreholes drilled from the surface to a coal bed.

The Bureau of Mines, in addition, is presently making plans to apply another interesting method to the experiment. This process is the same as that used by oil companies in fracturing oil sands which are not sufficiently open to permit the

free flow of oil. By this method the earth's strata are fractured by pressure.

It is likely that the experiment will continue for several years. Scientists and engineers from many nations have inspected the work, in addition to a number from all sections of the United States. Experts have come from Canada, Belgium, France, South Africa, Australia, Italy, Germany and England; and the British Government had an observer on hand for the greater part of two years and at intervals thereafter. Data are to be compared and exchanged with that of similar experiments now being conducted in England, Belgium, French Morocco and in the state of Missouri.

Results of this second experiment thus far may be summarized:

(a) As in the first experiment, no difficulty has been encountered in burning the coal in the earth.

(b) Indications are that the percentage of energy recovered is favorable as compared with that in mining coal in highly mechanized mines.

(c) In both experiments useful gases of reasonably constant properties have been made. The gas holds potentialities for power production, either as a means of generating steam or through the application of the gas turbine. Results may include the actual use of the gas in a gas turbine. While a chemical gas has not yet been regularly produced in large quantities, it is the opinion of our engineers and those of the government that such a gas can be made. During the course of this second experiment a gas turbine was operated for a short period of time in order to demonstrate its practical value.

The underground gasification process is a challenge to all who are concerned with the better utilization of the fuel reserves of this country and of the world, and, while we should not underestimate the problems which still confront us, it would be unrealistic not to recognize the significant progress which has been made in a relatively short time. However, to produce the coke needed in steel operations, coal must be brought to the surface. Coal, as coal, is also needed for other purposes.

Participation with the U. S. Government in this unusual experiment is a source of pride to our company.

An International Conference on this subject was held in Birmingham in February, 1952; scientists and engineers from many nations participated.

Those interested in pursuing this important subject will find a full review and forecast of its future in the brilliant paper of Dr. Milton H. Fies, presented on February 18-21, 1952 at the Annual Meeting of the American Institute of Mining and Metallurgical Engineers, New York.

CHAPTER TWENTY-FOUR

A UNION—LONG DELAYED

THE COMPANY acquired the control of Birmingham Electric Company in 1950. Plain was the affinity of interest and sure the economic and social gain to public and stockholders.

Alabama Power Company had first extended its transmission lines to Birmingham in 1914 to serve the larger industries there and, additionally, Birmingham Railway, Light and Power Company, predecessor of the Birmingham Electric Company, which contracted with us for its power supply. The availability of power in Birmingham led at once to requests from large and small industries and from residential, commercial and farm customers in areas adjacent to the city, so that we were called on increasingly for direct service of our own in the vicinity, some of it paralleling that supplied by the Birmingham company.

This demand—and the paralleling—grew as the city and nearby communities grew, so that it became necessary in 1925 to make an agreement defining the service area of each company. Approved as in the public interest by the Alabama Public Service Commission on November 10, 1925, this agreement gave to Birmingham Electric Company the metropolitan area of Birmingham and the adjacent municipalities of Bessemer, Fairfield, and Tarrant City, and certain unincorporated areas since included in Brighton, Homewood, Irondale, Lipscomb and Mountain Brook, all located in Jefferson County. The Birmingham company was authorized to provide electric light, transportation and steam heat service in those areas; Alabama Power Company was to provide electric service in the other areas of Jefferson County.

Alabama Power Company continued to furnish all power requirements of the Birmingham company.

With the service areas of Birmingham Electric and Alabama Power contiguous, with their transmission lines connecting at various points, with inevitable duplication of service

near boundary lines, and with certain newly incorporated communities including areas in which both companies operated, it was increasingly apparent that the interest of the public as well as that of the two companies could be best served through a physical integration of their systems.

Discussion of this was lively for several years but without result until Electric Bond & Share Company, principal stockholder of Birmingham Electric Company, was directed by the Securities and Exchange Commission to dispose of its interest. The matter of acquisition by our Company became more logical than ever. Negotiations ended in an agreement of June 22, 1950, by which Electric Bond & Share Company agreed to take for its 46 percent interest in the common stock of Birmingham Electric, common stock in The Southern Company, and we were to acquire this Birmingham Electric common stock from The Southern Company in exchange for our own common. The same offer was made to all other stockholders of Birmingham Electric. Birmingham Electric preferred stock was to be exchanged directly for our Alabama Power preferred.

This agreement was submitted to and approved by the Alabama Public Service Commission and the Securities and Exchange Commission, and became effective on August 31, 1950.

The offer of exchange was submitted to the stockholders of Birmingham Electric Company and on May 1, 1952, over 98 percent of the common and over 86 percent of the preferred had been acquired by the Power Company.

No protest or opposition appeared either formally or informally. The several municipal corporations in which the properties of the Electric Company were located indicated their approval in an informal way.

The Securities & Exchange Commission directed the Power Company and The Southern Company, however, to dispose of all interest in the transportation properties of Birmingham Electric Company by August 30, 1951. This direction was complied with; and all the transportation properties of Birmingham Electric Company were transferred to Birmingham Transit Company at midnight of June 30, 1951; a company organized by John S. Jemison, Jr., George L. Morris, Harvey DeRamus, Joseph H. Woodward II and Ernest H. Woods, all Birmingham citizens.

In the proceedings before the Securities and Exchange Commission, The Southern Company and Alabama Power Company agreed that within two calendar years subsequent to the calendar year in which the transportation property was disposed of, Alabama Power Company would acquire the electric property and other remaining assets of Birmingham Electric Company by merger, liquidation or otherwise. This was completed on December 1, 1952.

In consummating this program, Alabama Power Company announced that it was looking forward to even closer cooperation with the Birmingham Chamber of Commerce and others in the industrial development of the district.

"All Alabama," we pointed out, "has a vital stake in the progress of this great industrial center. With the experience of the Power Company in the promotion of industrial development in other parts of the state, the combined efforts of the two companies can, we believe, be helpful in the future development of the Birmingham district."

With all this in view, the Company addressed a letter to the Birmingham Chamber of Commerce on December 7, 1950, suggesting that a budget be set up calling for a total of \$500,000 to be expended over a period of five to ten years to advertise the industrial development of the Birmingham district; and agreeing, in behalf of the Power Company, as an evidence of its faith in the program and in the future of Birmingham, to subscribe \$100,000 to this fund. This suggestion was formally accepted by the Chamber of Commerce. On April 8, 1951, Clarence B. Hanson, dynamic chairman of the Birmingham "Committee of 100" announced that over \$600,000 had been subscribed by individuals and business groups of Birmingham.

In 1951 we proposed to the Montgomery Chamber of Commerce that we would contribute substantially to a fund for the industrial development of that community and that program was carried out.

These contributions are payable over a period of years and are beginning to be effective. We were happy to do our part in these efforts and have pride in our association with other local groups in helping to build up the economy of the state.

CHAPTER TWENTY-FIVE

THE SOUTHERN COMPANY

IN THE economics of electric power there is wise company and there is unwise.

This history includes both.

Unwise, as we look back on it, was the organization of the nation-wide group known as Commonwealth & Southern.

But wise, and productive, has been our prior and subsequent association with groups in our own part of the country—the one known as Southeastern Power & Light (see Chapter Eleven)—before Commonwealth & Southern was organized.

The company of sister interconnected companies in adjoining states of the South is an economic and physical natural; it is so recognized by the act of Congress of 1935. Real economies, efficiencies and improvements in service result. The company of scattered enterprises which included the northern group of The Commonwealth & Southern Corporation as well as those of the South, was condemned by the act of Congress.

The gradually developing interconnection and integration of the power system of Alabama Power Company with those of Georgia Power, Gulf Power and Mississippi Power during and after World War I has been described in Chapter Eleven. Southeastern Power & Light Company, organized in 1924, was a logical economic treatment of this regional situation which had come about, and was an effective financial unit. Shares of Southeastern stock had obtained an increasingly favorable market; not only because of the logic of the set-up, but especially because of the economic possibilities of the region.

This was the situation in 1929 when the growth of so-called holding companies throughout the nation was reaching its peak. Certain groups conceived then the idea of bringing together a new and massive holding company to be comprised of Commonwealth Power Corporation, Penn-Ohio Edison Company and our Southeastern Power & Light. The new aggregate was to be known as The Commonwealth & Southern Corporation.

This was carried out in the first half of 1929. It undoubtedly played its part in the gradual building up of a public

feeling against holding companies which expressed itself in 1935 when Congress passed the act which led to the break-up of many such companies, including this one. I shall not undertake to examine here all the factors which led to its formation and its destruction.

Southeastern Power & Light Company became a unit of the new and larger holding company; and in time passed out of existence entirely, so that Alabama Power and other companies in the group became subsidiaries of The Commonwealth & Southern Corporation.

I was made the first president of The Commonwealth & Southern Corporation, but after two years (unable to agree with some of the policies and methods employed and their economic and social implications) I resigned—although continuing as a director and as president of Alabama Power Company. In less than ten years the United States was to proceed to dissolve The Commonwealth & Southern Corporation on the ground that it was not a logical grouping of companies within the meaning of the act of Congress.

In dissolution proceedings involving Commonwealth & Southern under the 1935 act, the Securities & Exchange Commission, on August 1, 1947, approved the organization of The Southern Company under the laws of Delaware, to acquire the common stocks of Alabama Power Company, Georgia Power Company, Gulf Power Company and Mississippi Power Company; and to operate as a single, integrated system. These were the companies which had composed Southeastern Power & Light Company with South Carolina Power Company. This was a very excellent and well managed company which the Commission required Commonwealth to dispose of before approval of The Southern Company plan. In due time The Southern Company acquired from Commonwealth & Southern the common stock of the four companies in exchange for its own common stock.¹ On September 30, 1949, pursuant to Commonwealth's plan for compliance with Section 11 of the act and the orders of the Commission and the United States courts approving and enforcing the plan, Commonwealth delivered these holdings of Southern Company common stock to the distribution agent for holders of Commonwealth common who

¹See footnote 1, page 58.

received 35/100th of a share of Southern Company common for each share of Commonwealth common held by them. Alabama Power Company thereupon ceased to be a subsidiary of Commonwealth & Southern.

The Securities & Exchange Commission thus in effect recognized the logic of the original Southeastern Power grouping of systems in adjoining states which had resulted in substantial savings to the public. In its order, of August 2, 1947, the Commission held that the electric properties of these operating companies may be retained under common control as an integrated public utility system and that the continued combination of such properties is appropriate under the standards of the Public Utility Holding Company Act. The Commission's public utilities division concluded that there are substantial savings to the operating companies in operating costs and fixed charges resulting from coordinated planning and operation and central load dispatching; that economies are also achieved through sharing of reserve capacity and through joint planning of generating facilities so as to stagger construction, and that by control of reservoirs, substantial amounts of water which might otherwise be wasted are conserved, so that the need for additional facilities with accompanying fixed charges may be averted or delayed.

The electric facilities of the four companies are operated as an integrated system. The steam and hydro electric generating stations and the principal load centers are interconnected by high voltage transmission lines. The operation of these diversified power sources is co-ordinated by a central dispatching agency in Birmingham in a manner to produce power as required at the lowest cost consistent with reliability of service.

This method of operation was envisioned in the early beginning of the Company's work by its engineers of whom E. A. Yates, O. G. Thurlow, George H. Middlemiss, H. J. Scholz, W. E. Mitchell deserve especial mention. It was logical to integrate the operations of all generating plants of the Company—hydro and steam; central load dispatching was essential and became one of the important phases of operation made effective through the coordinating group set up at the Magella substation of the Company near Birmingham. As the Southeastern system was extended to include operations in adjoining states, so were the techniques of integrated operation ex-

panded at the Magella station, to take on this increasingly important operation.

The expanded system made necessary new methods of joint planning and central load dispatching. This was perfected in the middle nineteen twenties through Southeastern Engineering Company, a non-profit corporation owned by the several operating companies in which all of them had suitable voice. On the coming in of Southeastern to Commonwealth & Southern, one of the early discussions involved the cost of such services. It was being done by the Southeastern on a non-profit basis, contrary to the method in use in some of the other companies which became a part of the new and enlarged holding group. Upon my insistence, the non-profit plan was finally adopted and put into effect when the new service company, The Commonwealth & Southern Corporation of New York, was formed.

* * *

The ability of the Company to build, supply and maintain reliable and economical service is directly related to urban and farm progress, industrial development, employment and standards of living in the South. And may I say in large addition, that the ability of a private business to serve the people under public regulation, in an atmosphere of mutual confidence and encouragement towards ever larger service, is a direct benefit to the people themselves, a strengthening asset to government and to national character.

The Southern Company has functioned in an increasingly effective manner. Significant is the fact that it is qualified to do business as a foreign corporation under the laws of Alabama and Georgia. The officers and principal staff members of The Southern Company and of the four associated companies are men long identified with the operations of the Southern group. A majority of the members of the board of directors of The Southern Company reside in the areas served by the associated companies. This is designed to bring policy-making management into the most intimate relationship with administrative management; an extension of the modern concept that management is a trustee for all interested groups—owners, employes and the public. Thus their policies differ in many respects from those of The Commonwealth & Southern Corporation.

The integrated operation of the power facilities of the four companies results in substantial savings to the companies in operating costs and fixed charges, estimated at more than \$6,000,000 annually as compared with costs for independent operation of the systems of the four companies. These savings will increase with the growth of the systems of the companies.

Within the area served by the four companies, there is an aggregate population of more than 6,000,000 persons. They serve directly over 1,000,000 electric customers and indirectly some 450,000. The economic growth of this Alabama-Georgia-Florida-Mississippi territory has been outstanding. During the past ten years existing industry has expanded and new industry has turned to this section in increasing volume to secure the advantages of abundant natural resources, available native-born labor, both skilled and semi-skilled, and the newly developed and growing market for goods and services. While the increase in such wealth indices as per capita income, value of manufactured goods, sales of electric energy, and bank deposits have been larger for the South during the past decade than for the nation as a whole, these indices have risen much faster in the 4-state area served by The Southern Company system than in the 16-state area comprising the entire South.

This growth is reflected in a steadily increasing demand for electric energy. Since 1927 electric energy requirements on the interconnected system have increased at an average rate of $7\frac{1}{2}$ percent compounded annually, which means that they have more than doubled every ten years.

This, of course, requires continued physical expansion of the electric generating transmission and distribution facilities of the Company.

From the beginning of 1948 to the present time, The Southern Company has invested nearly \$87 million in the common equities of the four associated operating companies.

The area is facing still greater expansion of industry to supply in addition to peace requirements many different materials for national defense and this must be preceded by the construction of additional generating plants and units.

* * *

When The Southern Company was formed, a non-profit company called Southern Services, Inc., with stock owned by the four southern operating companies, was organized under

the laws of Alabama and approved by the Securities and Exchange Commission. It began operation on November 1, 1949, with headquarters in Birmingham. It is staffed largely by personnel who received their training from long service in one or more of these associated companies. Included among its functions are the design of generating and transmission facilities, coordination of power operations of the four companies of the integrated Southern Company system and long range studies and planning. It has 165 employees, all of whom except about 10 are located in Birmingham. It is, in substance, formed to carry out more effectively the integration of the power supply of the several companies, and to design certain of the major plants and transmission facilities to the end of best serving the area as a whole.

* * *

At a meeting of the board of directors of the Alabama Power Company, held October 28, 1949, I resigned the position of president and the board elected me chairman.

At the same meeting, James M. Barry was elected president at my suggestion; and Lewis M. Smith was appointed to the position of general manager.¹

In making public these changes, I pointed out that it was during the illness of James Mitchell in July 1919 that the board authorized me to assume the duties of president of the Company and that in February, 1920, I was elected president and had for over thirty years continued in that position.

My first position with the Company was in late 1911 in the capacity of counsel and through the years I have retained the title of general counsel along with the duties of president; and for reasons of sentiment I continued to hold the title of general counsel and chairman of the board.

¹In 1952 Mr. Barry resigned as president of the Company to become Chairman of the Executive Committee of The Southern Company; a position created for special study of the planning and development programs of the various companies. Lewis M. Smith was elected to succeed Mr. Barry as President of Alabama Power Company. Mr. Smith, native of Birmingham, is a graduate of the College of Engineering, University of Alabama. He was first employed by Alabama Power Company in 1923 as draftsman. He became director of Public Relations Department of the Company in 1944; was elected Vice President in 1945; was made general manager in 1949 and that year became a member of the board of directors of the Company; was elected President in September, 1952.

CHAPTER TWENTY-SIX

DESTINY AT MOBILE

AFTER the Korean war began in June, 1950, the need for various kinds of war materials matured more rapidly than many expected. This imposed demands for increasing amounts of power resulting to a considerable extent from a revision of national defense plans and led to the conclusion in the early part of 1951 that we must provide a large additional power capacity. Would it be in the coal fields in middle Alabama, or would it be in the Mobile area? For many reasons, after all factors were considered, we concluded that the plant should be located in the Mobile area.

Within the present century a diversity of industry has developed in southwest Alabama. Oil and a huge salt dome have been discovered; and the expansion in these fields is expected to lead to a chemical production center. Traces of other important mineral resources suggest their existence in quantity.

The concept of a generating plant at Salco was not new. Foreseeing the future of the Mobile area as far back as 1931, studies were begun by the Company to determine comparative costs of power for large power consumers in various places in the country. These studies disclosed that the cost of big blocks of electric power would be relatively as cheap in Mobile as at any other point. Studies were then begun for a large steam generating plant.

The building of a plant at Salco had its inception particularly in the vision of our former chief engineer, Oscar G. Thurlow. So convinced of the future of the Mobile area was the Company that it purchased lands for the proposed new plant. Construction, however, did not go ahead in the 30's due to the long depression, followed by World War II.

On the afternoon of July 30, 1951, friends of the Company gathered to break ground for a new steam plant at Salco, near Mobile. (*See picture section in Appendix*).

The plant will be named Barry Steam Plant for James M. Barry, then president of the Company. He was graduated from

the University of California in 1910 and was first employed in the Sierra Nevada Mountains on the construction of a small hydro-electric plant. He was later employed by Pacific Gas & Electric Company; Northwestern Electric Company, Portland; as chief of the Department of Electricity of the City of San Francisco; and by Great Western Power Company of San Francisco. He remained with the latter company until he came to Alabama in 1918 as local manager of Alabama Power Company at Anniston. Later he became superintendent and division manager of our eastern division. In 1921 he became assistant chief engineer of the Company and served on the construction of Mitchell Dam. When the electric property in Montgomery was acquired in 1923, Mr. Barry was transferred there as manager of the southern division. Later the same year he was brought to Birmingham as manager of retail operations.

In 1926 he was elected vice president and placed in charge of operations; was elected to the board of directors in 1930; in 1932 was appointed general manager; and became president of the Company in 1949. Thus the character, ability and varied services of Mr. Barry were recognized over the years, and finally by the board of directors in his election as president. He has long been one of those who, by his brilliant mind and the patient and persistent application of his talents, helped make of the Company a successful enterprise.

The Barry plant, destined to an important place in the system of Alabama Power Company as another dynamic example of American private enterprise, will have an initial capacity of 250,000 kilowatts and will be laid out for an ultimate capacity of 1,000,000 kilowatts, to be determined by the needs of the area.

* * *

This area is one of the most interesting in Alabama. There are two notable monuments nearby; the Ellicott Boundary Line Stone and the monument erected by the people of Mobile at 27 Mile Bluff on January 23, 1902, to commemorate the 200th Anniversary of the founding of Fort Louis De La Mobile by Pierre Le Moyne Sieur d'Iberville and Jean Baptiste Le Moyne Sieur de Bienville.

The Ellicott Boundary Stone is named after Andrew Ellicott, commissioner of the United States, whose party with that

of Captain Stephen Minor, commissioner for Spain, ran the line. Of the many markers and mounds set up from the Mississippi to the Chattahoochee River during the Ellicott survey, it is the only one remaining today.

The 150th anniversary of the Mississippi Territory, on April 7, 1948, was commemorated by the United States Post Office Department by printing, as a First Day Cover, a reproduction of the Ellicott Boundary Stone. It was thus described in an accompanying cachet written by Peter A. Brannon, Curator, Department of Archives and History of the State of Alabama:

"The Ellicott Boundary Line Stone fixes the 31st Degree of North Latitude which under the Pinckney Treaty of 1795 marked the line between the United States and Spanish West Florida. On the south side is: 'Dominios de S. M. Carlos IV. Lat. 31, 1799.' It was set April 2, 1799. (See Journal Andrew Ellicott). The stone today, surrounded by an iron fence placed more than forty-five years ago by the Iberville Historical Society, is on a small hill east of the Southern Railway, near old Chastang's in Northern Mobile County, Alabama. It is an irregular flat piece of weathered brownish sandstone about 30 inches high."

The Twenty-Seven Mile Bluff monument was erected by the people of Mobile. On it is this inscription:

ERECTED BY THE
PEOPLE OF MOBILE
JANUARY 23 AD 1902
TO COMMEMORATE
THE 200TH ANNIVERSARY
OF THE FOUNDING HERE OF
FORT LOUIS DE LA MOBILE
BY
PIERRE LE MOYNE SIEUR
D'IBERVILLE
AND
JEAN BAPTISTE LE MOYNE SIEUR
DE BIENVILLE

According to Hamilton in his Colonial Mobile, Fort Louis de la Mobile was the capital of Louisiana in 1702-11 and the site of the first Mobile settlement.

The student of history will find much to enlist his interest in the section, including the Salco area, which now is southwest Alabama. Earlier it was Spain's province of West Florida, the northern boundary of which was a line running through the mouth of the Yazoo River east to the Chattahoochee River. Here Indians, French, Spaniards and English lived and ruled before the American republic was born. The Mobile basin and port were explored by Pineda, Bazares, DeSoto and other Spaniards, both before and after the Mississippi was discovered, and the whole was repeatedly mapped and claimed for Charles V and his successors. A century or so later d'Iberville of France took up the plans of the murdered LaSalle.

The English followed, but were driven out by the Spaniards, and Spain for some years seemed about to re-establish her vast American empire. The last Spanish troops left Mobile April 15, 1813, under pressure from American troops, but bloodlessly. After the capture, Major-General Wilkinson wrote the Secretary of War: "It should be remembered that I am placed in a perilous situation, with the ocean in my front, the Creek Nation in my rear, the Choctaws on my right and the Seminoles on my left." But the Americans maintained their position, another glorious tribute to American arms. With this slender hold began the period of Americanization of the area now so important to our nation and to the South in particular.

Today, with two great strategic raw materials—oil and salt—promising vast supplement to greatly expanded activities in naval stores, lumber, shipbuilding and sea trade, Mobile is a bright spot in the economy of America.

The destiny which pointed out this rich and storied Mobile area for a power development in the early 30's, culminating under war-time demand in the groundbreaking for the Barry Plant in 1951, marches on, directing the whole area of Alabama and the South now toward advances unprecedented in variety and degree, with electric power ever more indispensable to the advance.

CHAPTER TWENTY-SEVEN

AT THE HALF

IN THE year of mid-century Alabama Power Company sold four and a half *billion* hours of electric power.

It is compared dramatically with 40 *million* kilowatt hours sold in Alabama in the Company's first year, 1912.

It was far more dramatic in terms of jobs created and of homes, factories, shops, farms, city services, offices and other agencies of a modern civilization into which the kilowatts were pouring. In 38 years the Power Company had played high part in creation of the civilization, and had itself been created ever more in the process.

So it was in Alabama and the South. The application of power to work has made possible greater production in Alabama, thereby increasing the income of the people with resultant higher standards of living and many cultural and social advancements.

In the half-century Alabama and the other eight states of the southeast had made tremendous strides to sounder and more diversified economy, and an increased place in the nation's total. Late to the march, still far behind, the wheels of progress turned faster in these states than in the country as a whole.

In the decade 1940-1950 per capita income increased 311 per cent; that is from 56 per cent of national average to approximately 70 per cent, and is growing about fifty per cent faster than the national average; bank deposits, life insurance in force and cash farm income showed comparable increases.

From 1912 through 1950 there were notable changes in various other economic indicators, best illustrated perhaps for the last decade. In that period the number of manufacturing establishments increased from 2052 to 5041, or 146%; value added by manufacture from \$247,000,000 to \$888,000,000 or 259%; value of manufactured products from \$575,000,000 to \$2,524,000,000 or 339%; and retail store sales from \$368,000,000 to \$1,743,000,000 or 374%.

"Prosperity's right hand is industry," it has been said. Obversely, the lack of industry to balance its agriculture, absorb its surplus products and populations, keep more of its profits at home, has been in days gone the right hand of southern poverty. In the economic revolution which has brought industry to Alabama and is bringing it in ever increasing output and establishment, Alabama Power Company has played its part, as has been indicated in other chapters.

As Broadus Mitchell has well said, "The South has run the gamut of social experience—colonization, national leadership, staple agriculture, slavery, secession, civil war and destruction, political humiliation, and, last, the shift toward manufacturing. Industry is not only setting past errors right, but it is determining Southern culture for the present and future."¹

Still predominantly agricultural, however, Alabama is presently going through a period of agricultural transition with emphasis shifting from cotton as principal cash crop to other farming, notably dairying and livestock and to a lesser degree, peanuts, corn, hay and the smaller grains. The Agricultural Experiment Station and the Extension Service of Alabama Polytechnic Institute are teaching the farmer better principles in land use.

In 1925 for prime example, the income from the 1,352,000 bales of cotton produced in Alabama constituted 68.5 per cent of the state's total farm cash income. In 1950, practically the same amount of cotton was produced on approximately half the acreage, and because lands formerly planted in cotton were used in the production of other cash crops, only 43 per cent of the state's farm cash income was derived from cotton.

Principally it is livestock which challenges cotton for agricultural leadership now. Climatic conditions and soil types in Alabama favor pasturage.

By 1950 well over 1,000,000 acres, some old cotton land, some once unproductive land, were being used for pasturage. Much of this was used for grazing during practically the entire year. Alfalfa, grain sorghum, crimson clover and sericea thrive in most sections of the state, and these crops, all comparatively new to Alabama, lead in making the feed crop for increasing numbers of cattle.

¹Preface to *The Modern South*, Broadus Mitchell.

Income from other crops has also increased as diversification and better understanding of land use have brought increased yields. In 1950, Alabama's corn crop was valued at an estimated 90 million dollars. Yields per acre had increased approximately 40 per cent since 1925; the yield per acre from peanuts, another major crop, has increased 31 per cent and hay yields were 21 per cent higher. Similar increases generally applied to all the leading crops.

All in all, the 1949 farm cash income of Alabama farmers was 346 millions of dollars, almost three times that for 1940. Some of this increase was absorbed by increased living costs but a genuine and progressive gain in living standards and net worth was indicated for our farmers.

The work animal is giving away to the tractor and mechanization is fast replacing other farm labor such as cotton picking. Thousands of farm workers are thus released and are finding their place in industrial pursuits.

* * *

One of many parts our Company has played in the story of the State's progress is through the payment of taxes. In recent years the total tax bill of Alabama Power Company has been in excess of \$10,000,000 annually. Much of the taxes paid to state and to local governments was used for support of schools, and certain taxes, such as the kilowatt hour tax, went directly into the educational trust funds. These taxes are no mean item in the revenue of the state.

* * *

The electric energy supply in the territory served by the Company has increased over the decades at an average annual rate of 7½ per cent compounded annually, which means that they have more than doubled every ten years. The energy supply which in 1950 amounted to four and one-half billion kilowatt hours is expected to more than double by 1960. And we are keeping well ahead of this demand with new plant capacity.

In 1951, an additional unit of 100,000 kilowatts of capacity was brought to completion at the Gorgas No. 2 Steam Plant, and another unit of 100,000 was completed in June 1952. A third 40,000 kilowatt generator at the Chickasaw Steam Plant near Mobile was completed in 1951. A fourth unit, rated at

55,000 kilowatts was completed in July 1952 for Martin Dam. In operation since 1949, was a new steam generating plant of 120,000 kilowatts at Gadsden and an additional hydro generator at Mitchell Dam on the Coosa River with rated capacity of 22,000 kilowatts.

* * *

The Company largely increased its budget for 1952 and the two years to follow, by the addition of the Barry Steam Plant near Mobile and other facilities; and announced the largest building program in its history, requiring over one hundred million dollars, approximately half to go into new generating plants and connecting lines.

* * *

In the period of twenty-eight years from 1912 to 1940, a total of 570,500 kilowatts of hydro and steam capacity was constructed.

For the fourteen year period 1940 through 1954 a total of 814,000 kilowatts of capacity will have been installed. On completion of this program, the generating capacity of the Company will be 1,379,500 kilowatts, compared with 570,500 at 1940.

In other words, during the fourteen year period 1940 through 1954, there will have been added over one and one-half times as much generating capacity as was created in the first twenty-eight years of the Company's history; a measure of the economic growth of the state in the latter period.

At the end of 1951 the Company was supplying service directly to over 487,000 residential, farm, commercial and industrial customers, and indirectly to some 87,000 more. In the direct customers we include the customers of Birmingham Electric Company, which was merged with Alabama Power Company on December 1, 1952.

* * *

The South has long faced the problem of capital with which to develop or create its public and private enterprises; it was particularly significant in the beginning of the effort to develop power resources.

The use of electric power was largely problematical in 1910-15; limited uses there were,—but revenues therefrom were wholly insufficient to support large capital outlays.

The hope was that the more or less dormant resources of the South would give a measure of confidence; but in last analysis it was to be confidence in people themselves, their own concept of the future and the legislative expression of the public policies of the state that were to be interpreted as invitation to capital.

In this we were not disappointed. Even so, it was an expensive effort in terms of the cost of capital; unusual and dramatic situations were to face a small group of hopeful, confident citizens of this and other states in their determination to move into a more important place in respect to industry, with its concomitant of a better standard of living resulting from jobs, taxes for public schools, public health and better balanced agriculture.

Those who examine the history of our enterprise in 1951 can little appreciate the many problems of finance and re-finance, finally reaching the position when the enterprise could look forward to a capital program in 1952-1954 of more than one hundred million dollars.

* * *

How long this proud and public-serving pace of our company can be maintained depends, of course, on what freedoms of private enterprise may be saved from the increasing inroads of federalism and upon the maintenance of that public confidence from which new funds for development flow.

All new enterprises have begun with the initiative and forethought of the individual. Later, the magnitude of many enterprises has required the united capital of many individuals.

The question of government ownership of public utilities has been of recent origin. It could never have entered the minds of the people until the utilities had developed on a large scale and the great risk in capital always attending the development of new and untried undertakings had been eliminated by the energy and determination of the individuals who took upon themselves the burden of development and the early losses of capital.

The utility company's obligation to share-holders includes the maintenance not only of their confidence but also that of the investing public, to whom the utility must apply time and again with increasing frequency for a substantial part of the

money required for expanding business, and in ever increasing amounts. No corporation can do business entirely on borrowed capital. A substantial part of its capital must be furnished by stockholders, and the proper ratio between borrowed capital and stock issues must be maintained as greater amounts of capital are required.

* * *

Alabama Power Company is not an eleemosynary institution and does not so pretend. It must earn a profit on investment. But even though it may be self-interest which concerns us so with the upbuilding of the areas in which we do business and seek new customers, we have been happy in the upbuilding, proud of our state and people as well as of our Company. Some years ago we undertook to put into words the policy guiding us in these respects. Those words belong in this volume.

IT IS THE POLICY of Alabama Power Company to generate, transmit and distribute electricity to its customers at the lowest cost consistent with good service and sound business principles. Recognizing that the success of its industrial and business customers—and the satisfaction of all its customers—depend upon an ample and continuous supply of power, the Company places the quality of its service first among its operating objectives. It will never sacrifice its excellent service to other considerations.

OUR PROGRESS is inseparably bound up in the progress of Alabama. Realizing the need for balancing agriculture with industry, we will always work wholeheartedly for the development of Alabama, supporting every movement to build and expand industry in the State. We will continue our efforts, which have been so productive over the years, to induce new industries to locate in Alabama. We believe that the attainment of these objectives would conserve our greatest resource—the young men and women preparing to embark on their careers—by giving them the opportunity to find suitable jobs here in Alabama. In keeping with our policy of always being ready with power for any industry which might need it, we will continue to anticipate demands by scheduling the building of modern generating plants so as always to have a reasonable capacity in reserve.

WE BELIEVE that the greatest good can come to the citizens of Alabama only when the benefits of good electric service at low rates are spread as widely as possible. To this end, it has been, and will continue to be, our policy to cover completely the service areas of the Company with transmission and distribution lines so that every citizen—whether on the farm or in the city—who can economically use our service will have it at his door. We will continue to inform customers of new and better methods of using electricity and will promote the use of appliances which will benefit customers by saving labor and bringing new comforts and economies.

WE WILL CONTINUE to maintain congenial working conditions and just rates of pay, with an equal opportunity for advancement to every man and woman in our employ. We recognize a triple responsibility—to the public, to our employees and to investors—and our obligation to try to maintain a just balance among these three interests.

WE RECOGNIZE that it is a duty and a privilege to participate as a good citizen in the development of every community within our service area through the payment of taxes and otherwise, and to this end we pledge the services of the men and women of our organization.

* * *

The Company and every man and woman in our organization should take a constructive interest in community affairs, contributing of time and effort to worthy civic undertakings and supporting them financially; and we will continue to encourage among our employees a realization that citizenship carries with it duties as well as privileges.

* * *

Alabama Power Company is more than a vehicle through which thousands of investors have put their money to use in anticipation of a reasonable return. It is more than a group of five thousand men and women joined together in measures taken to provide electric service to the people of Alabama. It is a greatly going concern, an animated and immense element in the life of Alabama, in the happiness and prosperity of Alabama, and in the growth of Alabama.

This age has seen the coming of industry to the South, the expansion of public education, of highway building, and more

of the better things of life for the average man. The availability of unlimited electric power at low rates has played a conspicuous part in all these developments. Alabama Power Company is proud of its place in the process.

* * *

It is our policy to invite men from various fields of industry, agriculture and finance, to serve on the board of directors of the Company; and this history would not be complete without tribute to those citizens of Alabama who have served as its directors. Their names are shown in the Appendix in the order of their election to the board.

To those who have served as directors I am personally indebted for their interest and their willingness to serve, often at personal inconvenience.

They have made many contributions to the work of the Company and to a better understanding by the public of its aims and purposes. They have also on many occasions brought to bear on Company affairs the viewpoint of the layman, and thus have been most helpful in its administration.

The days of a man's years are three score and ten, but the life of a business goes on forever, provided it has dynamic leadership to energize it, and supporting personnel to give the public the kind of service it expects.

And, in a sense, every corporation writes its history every year when it prepares its annual report to the stockholders. These reports present an accurate picture of the financial position of Alabama Power Company, but they ignore the social performance of the Company and many of the other factors which have a bearing on the manner in which it has met its obligations to the public. It is the purpose of this volume to take into account some of these factors which have confronted the Company during the more than forty years it has served Alabama.

There is much Company history which cannot be encompassed in a work of this scope. There has scarcely been a year in its history when it has not been visited by some disaster. Although the incidence of lightning has been largely overcome, such things as tornadoes and ice storms at intervals still pose unusual difficulties for the Company. In all such situations the

employees of this Company, sometimes at great personal hardship, have worked to restore service.

Perhaps this may be illustrated by the editorial expression of *The Birmingham Post* of January 31, 1949:

"No special committee is needed," said the editor, "to select today's 'Man of the Hour' in Alabama.

"We give you the power lineman who bore the brunt of yesterday's ice storm so that the rest of us might continue to enjoy the comforts and conveniences of our own homes.

"Working throughout the night to answer emergency calls and repair lines broken by ice-laden trees our *Man of the Hour* was still on the job today.

"We watched one crew at work on icy poles before daylight this morning and marveled not only at the speed with which line breaks were repaired but the good humor of the men as they went about their work. Our hat is off to them and all their fellows in this important field of public service."

And, there are the more than five thousand employees who give that quality of service day in and day out, year in and year out. They are constantly making history, and they have built up the tradition of service which is synonymous with *Alabama Power Company*.

* * *

We, and those who have preceded us have been in the midst of creative history for some forty years. It is an unfinished book. Some few are mentioned by name, others known to all of us, entered the story; they wrought well in their own time and place, leaving the story for others to complete.

As we look about at the organization we have helped to build, we know that the imaginative spirit, the skill and the integrity with which it is endowed will live on in the hearts and purposes of those who will carry the Company into the next half-century.

Every utility develops over the years a character peculiarly its own. This Company in which we all serve, or have served, is no mere technical entity. It is a living thing; it has its own character. We have poured our lives into it not merely as an exchange of services for pay, but with our hearts and minds, as an enterprise of integrity and worth from which we have received far more than we have given.

It has been well said that—

“ . . . the indispensable ingredient in business is judgment, and a successful enterprise is built upon thousands of decisions guided by the sound lessons of experience.”

As a private power company, we have not failed at any time in the long years of service to the public to anticipate and have ready in advance of need any amount of power that industries and communities required. In other words, encouraged as we have been through the years by public attitude towards our enterprise, we have been able to obtain the necessary capital to enable us to supply the need for power. The result has been that industries have been drawn to the State by a wholesome and natural process in which we have been happy to take our part.

These highlights of our Company's history show what can be accomplished under our American system of individual enterprise.

It has been a source of personal pride and satisfaction through the years to see how the young men and women coming into the organization become a part of it and thus catch its spirit and learn to share its ideals.

The personnel of the Company, and the good will of its customers and stockholders, thus constitute a heritage which we can proudly pass on to those who follow.

Our pride in the past is exceeded only by our faith in the future; all the efforts of those who go *before* are without lasting value and significance except *for those who follow*.

“ . . . For a brief space it is granted us,” said Havelock Ellis, “if we will, to enlighten the darkness that surrounds our path. As in the ancient torch-race . . . we press forward torch in hand along the course. Soon from behind comes the runner that will outpace us. All our skill lies in giving into his hand the living torch, bright and unflickering, as we ourselves disappear in the darkness.”

Such has been our effort; and it is to my co-workers over the years that this work is dedicated.

THE END

APPENDIX

A forecast was made by the author at the request of the Birmingham Historical Society under date of July 10, 1950 and placed in the cornerstone of the new Birmingham city hall to be opened by the chief executive of the Alabama Power Company in the year 2050. It reads:

July 10, 1950

**TO THE CHIEF EXECUTIVE OF ALABAMA
POWER COMPANY IN THE YEAR 2050:**

My dear Sir:

At the invitation of the committee in charge of assembling material to be placed in the cornerstone of the new Birmingham City Hall, it is my privilege to present our idea of the social and economic growth of Alabama during the coming one hundred years.

At January 1950, the annual requirements of Alabama Power system were about four and one half billion kilowatt hours for industrial, urban, rural and commercial purposes. It is our deliberate judgment, that the forecast of goals to be attained in respect to electric power for the year 2050 may well mean an average increase during the period of about 3% per year compounded. Thus, those who are responsible in the management of the Company throughout the century ahead must give constant thought to ways and means for providing power year by year to keep pace with the requirements of the area to be served. We assume that such responsibility will be met; on the basis of which assumption the goals to be attained are set forth in this letter.

During these years, we are confident that the average value added by manufacture per wage earner in Alabama, and indeed, in the South, as a whole, will continue to increase and will become equal to or greater than that of other regions in the United States; and that the average per capita income will likewise be equal to the national average.

In examining this statement, you will bear in mind that the South in making use of scientific research, as do other regions, will require large amounts of electric power. Only by meeting the requirements for power can the average value added by manufacture per wage earner be equal to or greater than that of other regions of the United States.

BOARD OF DIRECTORS—1953



JAMES M. BARRY
Chairman,
Executive Committee
The Southern Company
Birmingham, Alabama



J. L. BEDSOLE
President
Bedsole Investment Co.
Mobile, Alabama



WILLIAM C. BOWMAN
Chairman of the Board
The First National Bank
of Montgomery
Montgomery, Alabama



ERVIN JACKSON
Chairman of the Board
Jefferson Federal Savings
& Loan Association
Birmingham, Alabama



CRAWFORD JOHNSON, JR.
President
Crawford Johnson & Co.
Birmingham, Alabama



WM. LOGAN MARTIN
Martin, Turner, Blakey
and Bouldin
Birmingham, Alabama



EARL M. MCGOWIN
Vice President
W. T. Smith Lumber
Company
Chapman, Alabama



J. FINLEY MCRAE
President
The Merchants National
Bank of Mobile
Mobile, Alabama



GORDON D. PALMER
President
The First National Bank
of Tuscaloosa
Tuscaloosa, Alabama

BOARD OF DIRECTORS—1953



JOHN C. PERSONS
Chairman of the Board
The First National Bank
of Birmingham
Birmingham, Alabama



WALKER REYNOLDS
Vice President
Alabama Pipe Company
Anniston, Alabama



WILLIAM J. RUSHTON
President
Protective Life Insurance
Company
Birmingham, Alabama



ALFRED M. SHOOK, III
General Manager of Mines
Shook & Fletcher Supply
Company
Birmingham, Alabama



WM. HOWARD SMITH
President
McQueen-Smith Farms
Prattville, Alabama



JOHN C. WEBB, JR.
Webb-Jackson Lumber
Company
Demopolis, Alabama



EUGENE A. YATES
Vice President
Chairman of the Board,
The Southern Company

THOMAS W. MARTIN
Chairman of the Board

LEWIS M. SMITH
President

EDGAR W. ROBINSON
*Vice President and
General Manager*

GENERAL OFFICERS—1953



THOMAS W. MARTIN
Chairman



LEWIS M. SMITH
President



EDGAR W. ROBINSON
*Vice President and
General Manager*



WALTER BOULDIN
Financial Vice President



EVERETTE C. EASTER
*Vice President
Sales*



JAMES O. HENKEL, JR.
*Vice President
Executive Assistant to the
General Manager*



H. NEELY HENRY
*Vice President
Employee Relations*



PERRY W. TURNER
*Vice President
Attorney*



FERNAND C. WEISS
*Vice President
Engineering &
Construction*



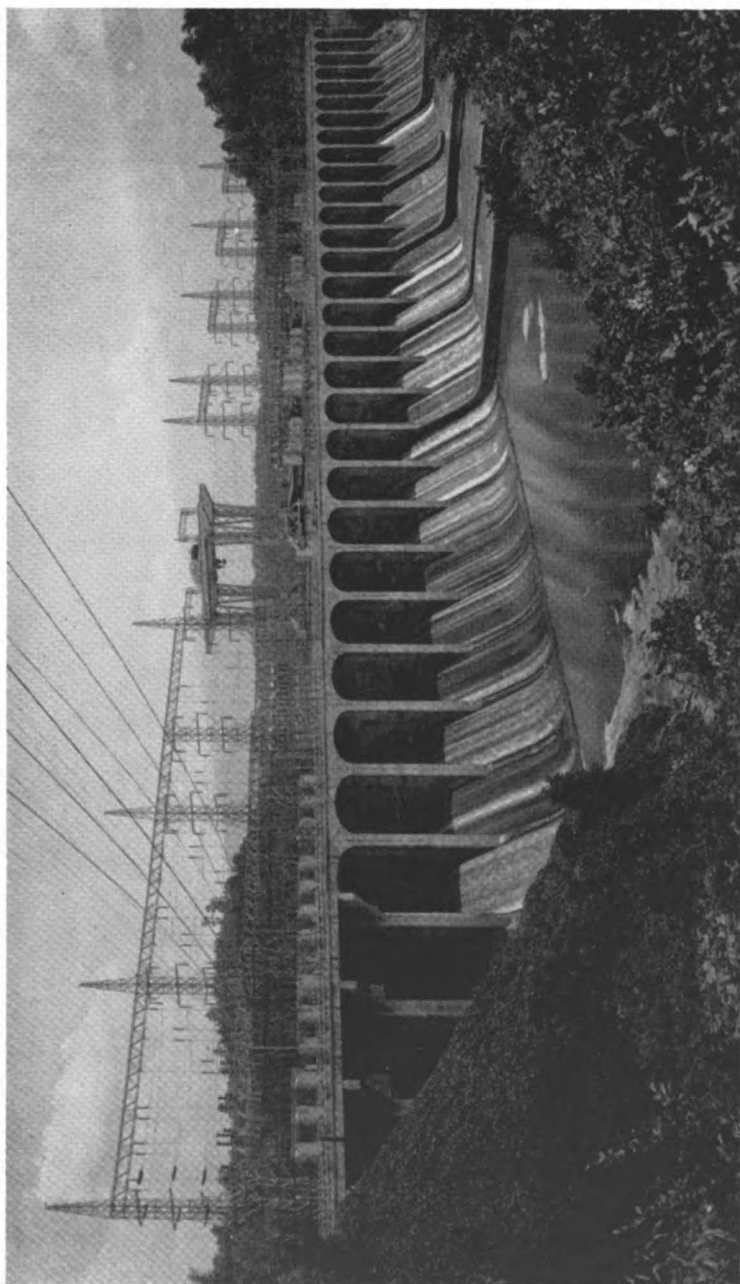
M. EDWIN WIGGINS
Treasurer



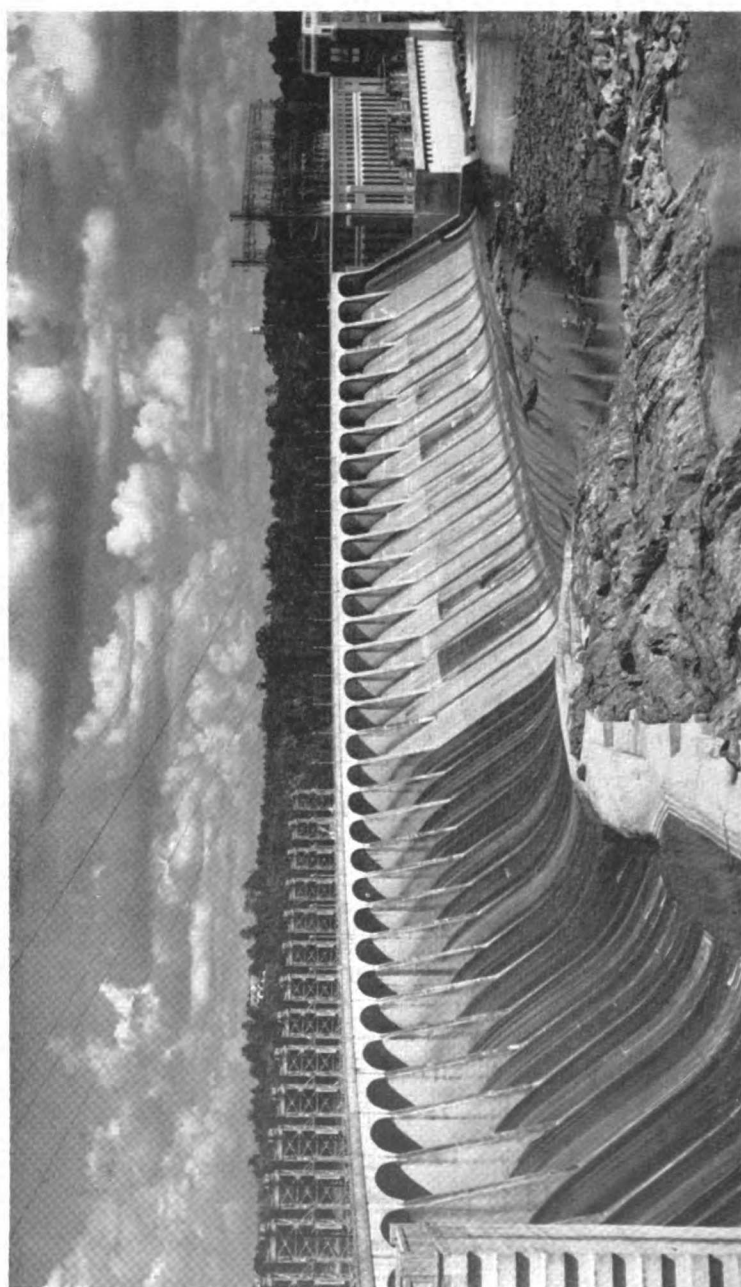
CHARLES P. JACKSON
Secretary



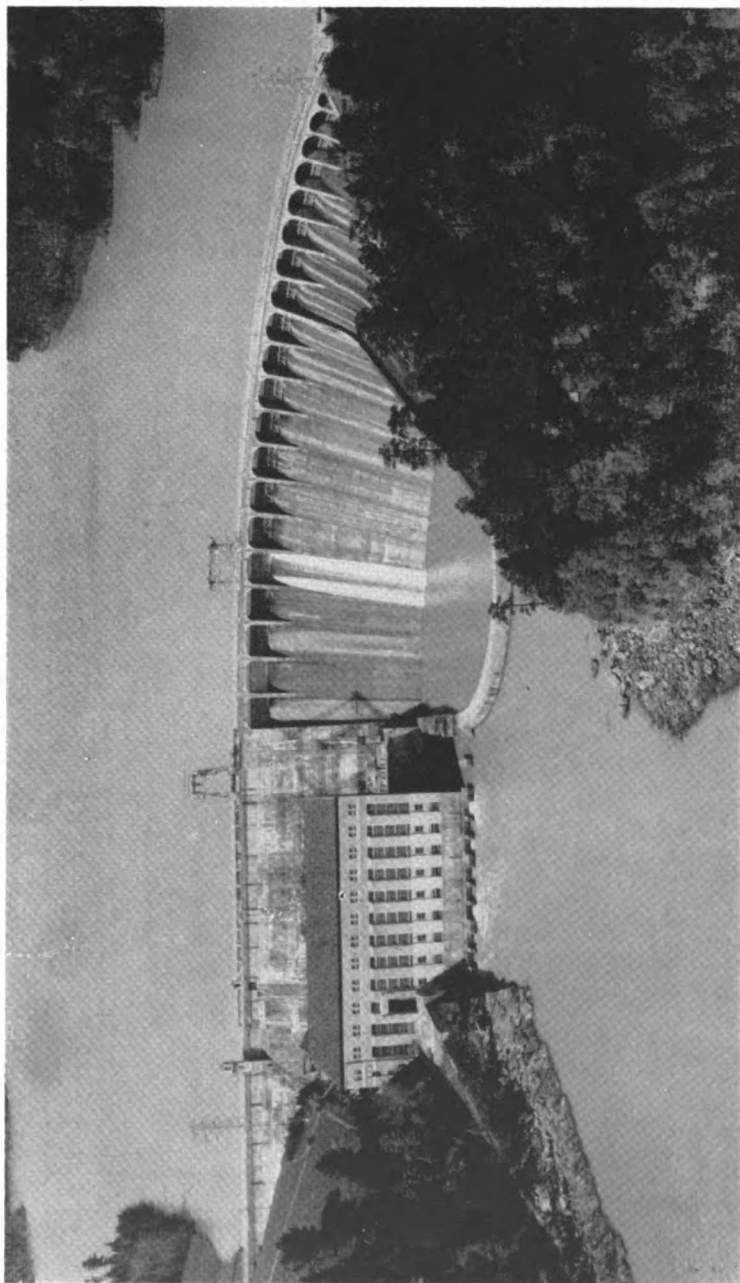
Suan Powers, daughter of veteran Lay Dam superintendent S. H. Powers, with Capt. Lay on July 1, 1939. The picture was taken at the unveiling by Suan of the bronze tablet honoring Capt. Lay and attached to the powerhouse wall.



Mitchell Dam on the Coosa River near Verbena, Alabama, 101500 horsepower.



Jordan Dam on the Coosa River near Wetumpka, Alabama, 144,000 horsepower.



Martin Dam on the Tallapoosa River, upstream from Tallassee, Alabama, 135,000 horsepower at the time of the picture (1950) but increased to 215,000 horsepower in 1952.



Yates Dam on the Tallapoosa River, above Tallassee, Alabama, 50,000 horsepower.



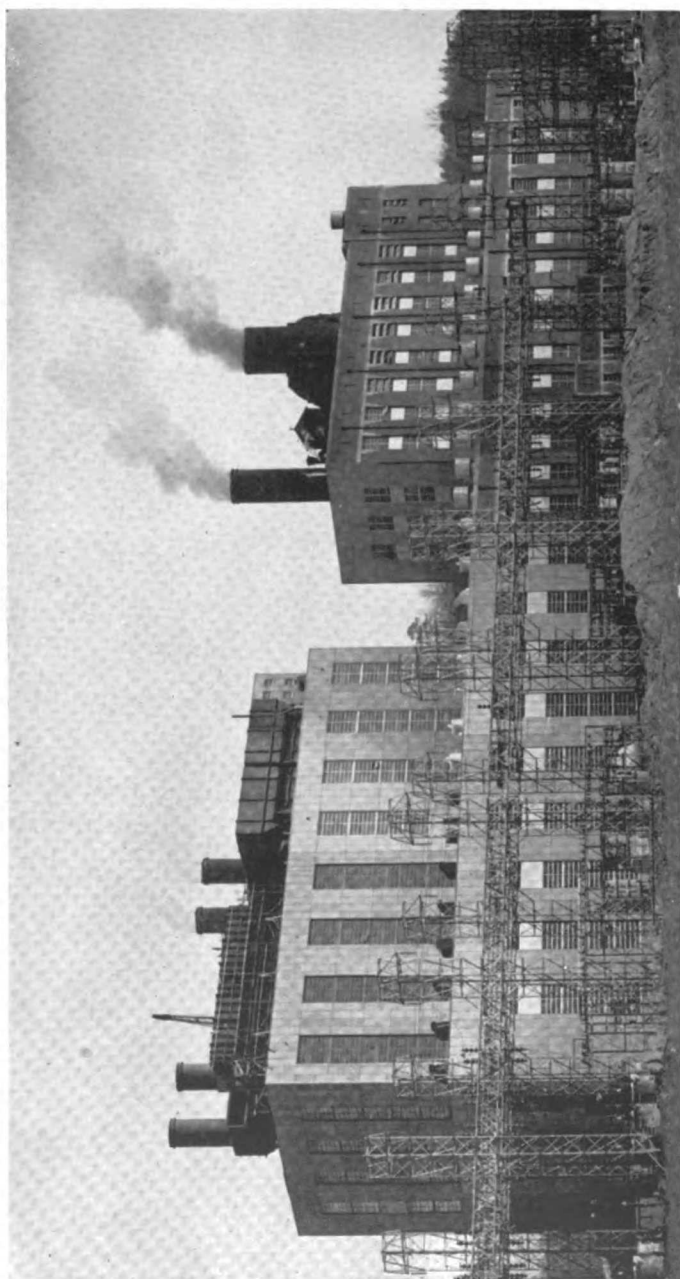
At dedication of Yates Dam, June 28, 1947: Mr. Yates, Mrs. Yates and Miss Margaret Yates with the usherettes who served at the ceremony with their sponsor, Mrs. Bernice Thomason of Yates Dam. Left to right they are Margaret Cole, Rosalyn Hollaway, Minnie Davis and Annette Street in the first row; Eleanor Haywood, Carol Ballard, Barbara Crockett, Peggie Sue Milton and Ivy Jean Davis in the center row; Jo Ann Sanford, Barbara Ellison, Mary Ann Powell, Mrs. Thomason, Billy Jean Cooper and Miss Yates in the back row.



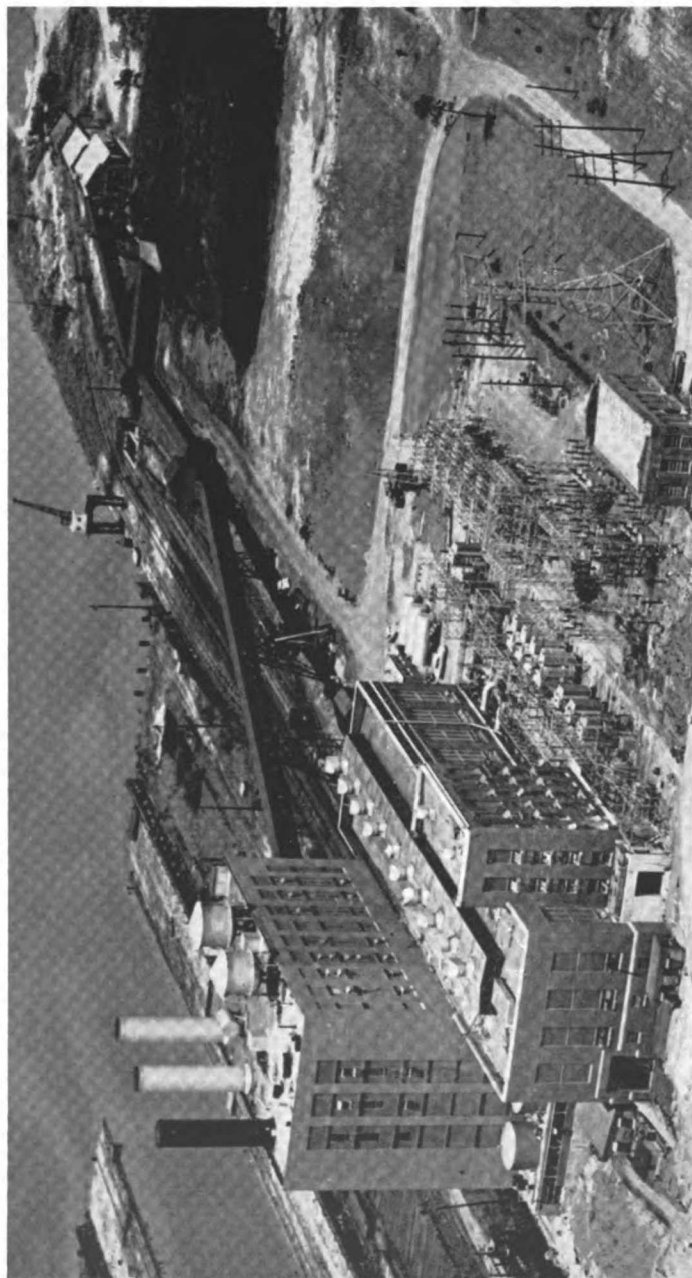
Aerial view of downtown Birmingham.



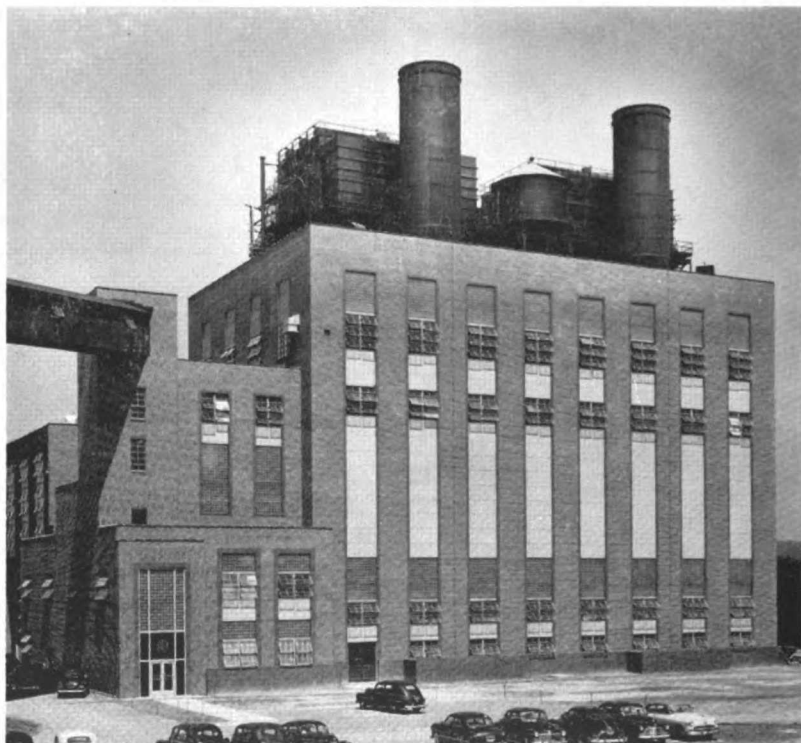
Thurlow Dam on the Tallapoosa River, at Tallassee
72,000 Horsepower.



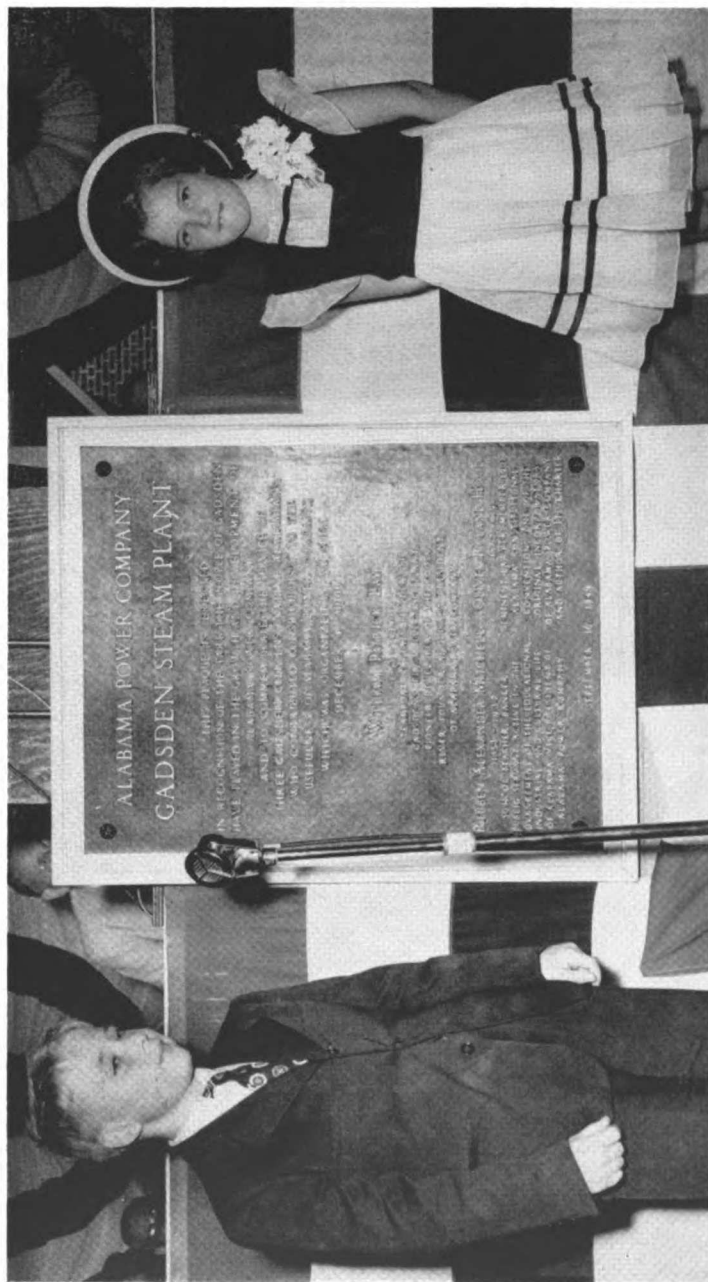
Gorgas No. 2 Steam Plant. Construction for the latest unit of 100,000 kilowatts was still in progress when this picture was taken in the Spring of 1952. Capacity of this plant is 320,000 kilowatts or 427,000 horsepower.



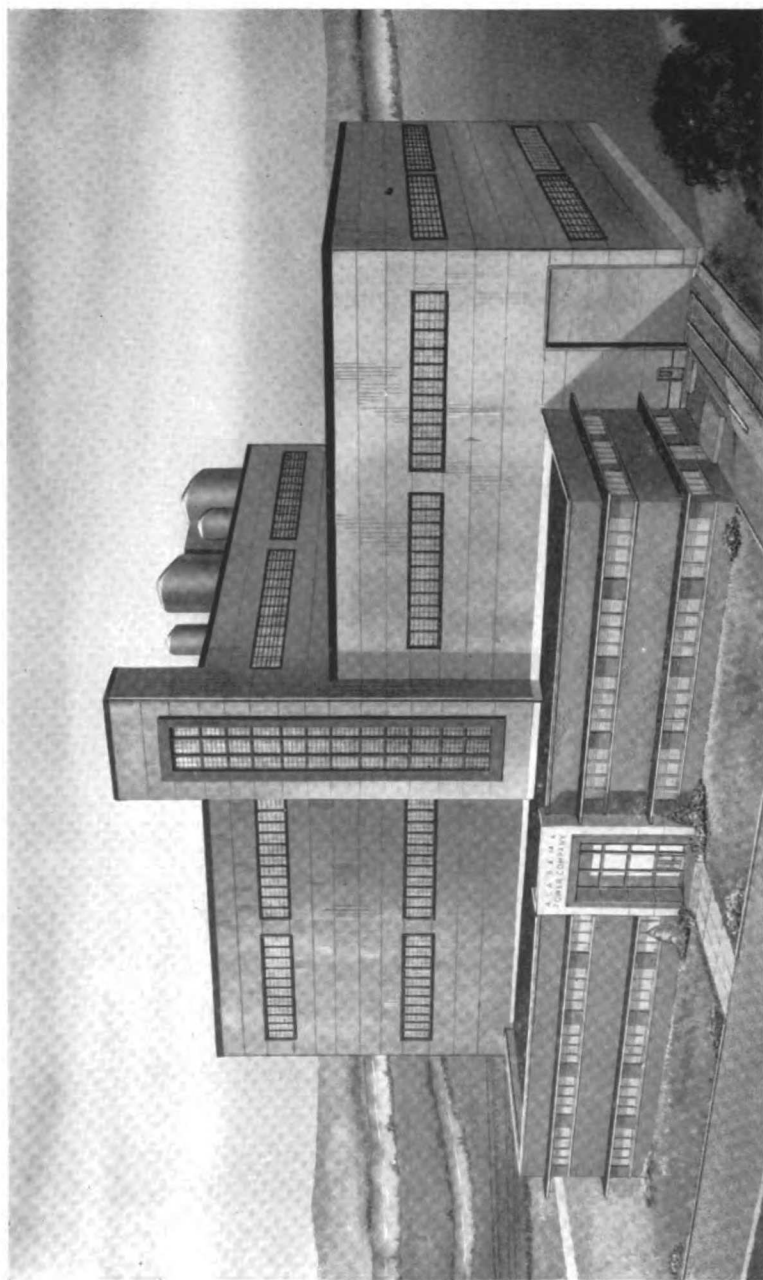
Alabama Power Company's 120,000 kilowatt Chickasaw Steam Plant near Mobile.



Gadsden Steam Plant at Gadsden, Alabama. 120,000 kilowatts. Erected 1949.



Ties with the past. Fern Wood Mitchell III, great grandson of Col. Reuben A. Mitchell, and Rebecca Emmett Noojin, granddaughter of B. Lonnie Noojin, a director of the Company. Messrs. Mitchell and Noojin played important parts in the affairs of Alabama Power Company. Col. Mitchell, whose association with the Company began in 1912, was especially active in getting underway the industrial development work for which Alabama Power Company has become noted. This picture was taken on the occasion of the dedication of the new Gadsden Steam Plant at Gadsden, Alabama, September 16, 1949.



Artist's drawing of the new 250,000 kilowatt Barry Steam Plant under construction near Mobile. Completion expected in 1953-54.



In this picture, President J. M. Barry is turning the shovelful of earth which on July 20, 1951 symbolized the beginning of construction of the new 250,000 kilowatt steam plant being built at Salco, near Mobile, Alabama, and which will be named after Mr. Barry. Nearly 500 persons attended the occasion. Seen in the picture with Mr. Barry are, left to right: F. C. Weiss, Vice President in charge of engineering and construction; Dan MacDougald, Chairman, Georgia Power Company; C. B. McManus, President, The Southern Company; Mrs. Barry; H. J. Scholz, President, Southern Services, Inc.; E. W. Robinson, Vice President in charge of operations; Thomas W. Martin, Chairman of the Board.



Aerial view of clearing in wilderness at beginning of Barry Steam Plant construction.

The result of all of these factors will be greater use of our natural resources; living conditions and educational facilities will correspondingly improve, not only in Alabama, but throughout the South. It will mean that migration of Southern youth to other areas of America will largely cease, because of better opportunities in this region.

In seeking to bring about the goals outlined, it is my hope and belief that Alabama Power Company will have continued through these hundred years as an important factor in the forward progress of a great State.

I am

Sincerely,
THOMAS W. MARTIN

PAST DIRECTORS OF ALABAMA POWER COMPANY

<i>Name</i>	<i>Date Elected</i>	<i>Date of Termination</i>	
W. P. Lay	{ 12- 4-06	5- 7-12	Resigned
Earl Lay	8- 5-13	9- 1-15	Resigned
O. R. Hood	12- 4-06	5- 7-12	Resigned
James Mitchell	12- 4-06	5- 7-12	Resigned
Frederick S. Ruth	5- 7-12	Died 7-22-20	
W. W. Freeman	{ 5- 7-12	9- 7-12	Resigned
Lawrence Macfarlane	10- 4-13	2-15-15	Resigned
J. W. Worthington	9- 7-12	10- 4-13	Resigned
Frank S. Washburn	{ 8- 5-13	10- 4-13	Resigned
Frederick Darlington	2-16-20	11-14-21	Resigned
E. Mackay Edgar	2-20-22	12-29-32	Resigned
H. S. Swan	8- 5-13	12- 1-15	Resigned
Gerhard M. Dahl	8- 5-13	3-10-16	Resigned
George E. Chaffin	8- 5-13	2-23-14	Resigned
W. H. Hassinger	8-20-13	3- 5-15	Resigned
W. J. Henderson	2-23-14	5- 1-20	Resigned
W. H. Weatherly	{ 2-15-15	2-19-23	
R. A. Mitchell	2-21-21	8-18-23	Resigned
C. E. Grosbeck	5-30-23	8-18-23	Resigned
W. N. Walmsley	{ 9- 1-17	9- 9-35	Resigned
S. Z. Mitchell	2-18-24	9- 9-35	Resigned
Richard M. Hobbie	9- 1-17	Died 4-18-19	
Walter M. Hood	9- 1-17	Died 3-28-35	
Frank M. Moody	9- 1-17	11- 6-30	Resigned
E. C. Melvin	7- 5-18	Died 3-17-47	
D. P. Bestor, Jr.	8-26-18	Died 1-10-37	
R. I. Ingalls	{ 6- 2-19	8-18-23	Resigned
O. G. Thurlow	2-18-24	12-29-32	Resigned
W. E. Mitchell	10-15-19	12-30-24	Resigned
Theo. K. Jackson	2-16-20	12-29-32	Resigned
J. E. Z. Riley	{ 5-27-20	3- 1-20	Resigned
L. H. Sessions	2-16-20	Died 12-24-40	
R. D. Thomas	2-16-20	2-18-24	Resigned
B. C. Cobb	5-27-20	9-20-40	Resigned
Oscar Wells	8-18-23	4-18-49	Resigned
P. W. Turner	10-19-23	3-21-33	Resigned
	9- 9-24	4-21-41	Resigned
	5-28-25	4-21-30	Resigned
	5-28-25	11- 6-30	Resigned
	4-19-26	Died 9-24-45	
	11-10-27	Died 10-16-35	
	11-10-27	4-18-32	Resigned
	11-10-27	Died 1- 6-51	
	9-12-29	12-29-32	Resigned
	{ 2-27-30	4-18-38	Resigned
	4-15-40	4-18-49	Resigned
	4-21-30	4-15-40	Resigned

PAST DIRECTORS OF ALABAMA POWER COMPANY
(Continued)

	<i>Date Elected</i>	<i>Date of Termination</i>	
F. P. Cummings	4-21-30	11-12-31	Resigned
Wendell L. Willkie	12-29-32	2-13-36	Resigned
Crawford T. Johnson	2- 9-33	4-18-38	Resigned
Thomas Bragg	4-15-35	Died 10-30-43	
W. M. Stanley	4-15-35	4-18-49	Resigned
Justin R. Whiting	2-13-36	11- 7-38	Resigned
Algernon Blair	4-19-37	4-17-50	Resigned
David R. Dunlap	4-19-37	4-19-43	Resigned
C. A. Bingham	4-18-38	4-15-40	Resigned
Carl James	11-18-38	11-16-51	Resigned
Al C. Garber	4-21-41	Died 2-18-46	
B. Lonnie Noojin	11-15-46	Died 9- 7-50	

PRESENT DIRECTORS OF ALABAMA POWER COMPANY
(3-1-52)

<i>Name</i>	<i>Date First Elected</i>
Thomas W. Martin	5- 7-12
E. A. Yates	2-19-23 to 4-21-30 reelected 11-12-31
J. M. Barry	11- 6-30
Crawford Johnson, Jr.	4-18-38
E. W. Robinson	4-15-40
Gordon D. Palmer	2-21-41
Joseph Linyer Bedsole	12-18-42
Wm. Howard Smith	11-19-43
John C. Webb, Jr.	12-19-45
Ervin Jackson	4-15-46
Walker Reynolds	4-21-47
W. C. Bowman	4-18-49
J. Finley McRae	4-18-49
John C. Persons	4-18-49
Alfred M. Shook, III	4-18-49
Lewis M. Smith	4-18-49
Wm. Logan Martin	11-16-51
Earl M. McGowin	2-15-52
William J. Rushton	12- 1-52

**BIOGRAPHIES OF A FEW OF THE IMPORTANT
PERSONALITIES WHO HAVE PASSED AWAY OR LEFT
THE COMPANY, FOLLOW:**

ABNER BELL ALDRIDGE

Abner Bell Aldridge was born near Catherine, Wilcox County, Alabama, September 2, 1879. He obtained meager schooling but continued the labor of self-education throughout his life and grew in mental stature as his responsibilities increased.

In 1900 he came to Birmingham and attended Wheeler Business College. He secured employment with Sloss-Sheffield Steel & Iron Company, and soon advanced to the position of superintendent of that Company's largest coal mine located at Brookside.

In 1906 he and Paul J. Stith organized Stith Coal Company to operate in Walker County. Before operations could begin Stith died and Aldridge operated that Company until his death August 29, 1937.

Mr. Aldridge was first identified with activities of Alabama Power Company in 1915 when he joined Mr. Martin in seeking a suitable location in Walker County for a new steam plant. After the plant was constructed he organized Winona Coal Company which supplied fuel for its Gorgas Steam Plant. This company was acquired by the Power Company, later becoming Southeastern Fuel Company, which Aldridge operated as president to the time of his death. Thus he became associated with Alabama Power Company early in its history and through the years was one of the most constructive influences in its development.

When Mr. Aldridge passed away on August 29, 1937, the Board of Directors said of him:

"He inspired implicit confidence in those with whom he dealt, and his scrupulous integrity earned for him early in life the respect of the business world, which continued in unrelenting degree to the time of his death. No memorial to Abner Aldridge could surpass in true appraisal of his character the expressions of his employees following his death. Decades spanned his association with some, employed as the humble miner; with others, younger men, the relationship had been of a few years. Many of them, both white and colored, visited him in his last illness and attended his funeral. All spoke with deep feeling of one who was their friend as well as their employer.

"He exemplified the supreme virtue of loyalty, for his friendship was always aggressive and positive; and no one ever combined better courage with kindness, character with sympathy and serious purpose, than Abner Aldridge."

On the afternoon of the 18th of June, 1941, a ceremony was held dedicating to the memory of Mr. Aldridge the observation

fire tower, located on Dutton Hill, five miles southwest of the City of Jasper in Walker County, Alabama. The tower was erected by the Department of Conservation, State of Alabama, and by the friends of Mr. Aldridge. Many citizens of Walker County and from other places in the State of Alabama and beyond the State attended the ceremony.

* * *

LAMAR ALDRIDGE

Lamar Aldridge was educated in the public schools of Wilcox County and at the Selma Military Institute. He completed the academic and law courses at the University of Alabama in 1916, and joined Alabama Power Company. In 1917 he volunteered for the World War and was commissioned a second lieutenant of Infantry. As an officer of the Eighty-second Division, he was among the first to be sent overseas and saw fifteen months of active service in France. Participating in the battles of St. Mihiel, Argonne Forest and other engagements, he distinguished himself and while at the front was commissioned a first lieutenant and later captain.

After his discharge from the Army in 1919, he returned to the Company. In 1920 he was elected secretary, and in 1926 was elected treasurer. On October 10, 1935, he was elected a vice president of the Company, and at the time of his death in 1939, held the positions of vice president and treasurer.

ALGERNON BLAIR

Algernon Blair, native of New York, made his home in Montgomery, Alabama for more than 40 years. Mr. Blair began his career as a young contractor in Columbus, Georgia. He specialized in public construction work with projects from New York State to the Mexican border, from Oklahoma to Key West. He was commended for rapid construction of many emergency defense works during World War I and II, including war plants, emergency housing facilities, army camps, prisoner of war internment camps, air fields, naval installations, and other facilities.

He served his fellowman as churchman, engineer, builder and as a great citizen whose genius added architectural beauty and symmetry at many places throughout this Southland of ours.

Mr. Blair was elected to the Board of Directors on April 19, 1937 and played an important part in the affairs of the Company; he resigned from the Board in 1950 because of ill health and died March 4, 1952.

* * *

THOMAS BRAGG

Thomas Bragg, native of Wilcox County, entered the service of Alabama Power Company in 1920. He was placed in charge of the investment department which had been recently organized to handle the sale of preferred stock of the Company. His success in this work was immediate and continued as long as the preferred stock was offered to investors.

In 1926, he was elected a vice president of the Company and in 1935, he was elected a director, which positions he held at the time of his death in 1943.

Few men have lived in the State of Alabama who have touched so many of its important activities as did Mr. Bragg. He was strong, virile, and fearless. A gentleman by nature, he was endowed with the charm and grace and manner of the Old South.

FRANCIS P. CUMMINGS

Francis Patrick Cummings, native of New York, graduated from Clarkson College of Technology in 1906. He was first employed by General Electric Company at Pittsfield, Massachusetts. He joined Alabama Power Company in 1921.

Pat Cummings was brilliant and imaginative. He had an intimate connection with the growth and development of the Company serving as efficiency engineer, commercial manager and later as vice president. He also served as vice president of Southeastern Power & Light Company, and negotiated the purchase of a number of the units which later became parts of the South Carolina, Georgia, Florida and Mississippi Power Companies.

When the Southeastern Company merged with The Commonwealth & Southern Corporation he became a vice president of the latter.

Mr. Cummings died September 21, 1939, leaving the widow, one son, F. P., Jr., and daughter, Patsy.

* * *

FREDERICK DARLINGTON

Frederick Darlington was James Mitchell's personal consulting engineer, to whom much credit goes for developing sound rates for the about-to-become operating company — Alabama Power Company.

Native of Pennsylvania, he was associated with George Westinghouse in many of his enterprises. He served as Vice President and member of the board of directors of the Power Company in 1913, a critical year in the Company's history. He continued as consulting engineer for about two years; during which he joined with Theodore Swann in making a commercial study of the power market in Alabama.

After the United States entered the first World War, Mr. Darlington became Technical Head of the Power Section of War Industries Board. The report of the Power Section was completed and published in 1921 and is known as "The Power Situation During the War." The economy of interconnection of various systems was explored in a preliminary way and the desirability of more detailed studies made evident. As a result of the report, the utilities operating in this region met several times with Mr. Darlington as Chairman, to consider his suggestions; finally resulting in a meeting in July, 1919 of representatives of ten separate operating companies, including the author. At this meeting Eugene A. Yates was engaged on the author's motion to make such a study, which was completed and has long served as a guide in the orderly and efficient development of power resources in this area.

ALEXANDER CHRISTIAN GARBER

Alexander Christian Garber was born at Gallion, Alabama, on the 23rd of September, 1879. He attended public schools, entered the University of Alabama; and upon leaving college came to Birmingham to reside. Throughout his life he took an active part in business and civic affairs of Birmingham. He was an officer and director of several banks and business institutions. For some years he engaged in the securities business as a member of the firm of Caldwell and Garber. Later he organized the firm of Garber, Cook & Company, afterwards Garber, Cook & Hulsey. At the time of his death, February 18, 1946, he was serving as a member of the War Contracts Adjustment Board formed by the Secretary of the Treasury to examine into the profits of war contractors. Mr. Garber during his years of service on the Board of Directors of the Company, took an active part in its affairs, and his counsel and advice were sought and freely given both before and after he became a member of the Board. He married Miss Helen Eubank of Birmingham; she with their two children, Al C., Jr., and Helen (Mrs. Walter Reynolds, Jr.) survive.

* * *

WILLIAM H. HASSINGER

In 1916 William H. Hassinger became a member of the board of directors of Alabama Power Company and served continuously until his death in 1935. He first became interested in its program from the viewpoint of a citizen and discussed with James Mitchell and associates their plans for developing and transmitting electric power. With this concept, Mr. Hassinger was in full agreement and continued his close association with the enterprise both in a personal and in a financial way to the time of his death.

He joined Mr. Martin and others in 1921 in taking over for the benefit principally of Alabama citizens of a large stock interest in Alabama Traction, Light and Power Company, Ltd., the then holding company, and from that time exercised increasing influence in its affairs. As a voting-trustee with Thomas W. Martin, he became interested not only in the affairs of the Company in Alabama, but of associated companies in adjoining states.

The confidence which Mr. Hassinger expressed in the immediate and ultimate success of the company; its useful place in the social structure of Alabama and of the South, and of the large contributions it made in improving living conditions, providing employment for thousands of workers through the creation of new, and the expansion of existing industries; all confirmed the sound judgment of the small group sponsoring the Company in the early years.

OLIVER R. HOOD

Oliver R. Hood was born at Ashville, in St. Clair County, Alabama on July 31, 1867. He attended the public schools of Mississippi and St. Clair County, Alabama and was graduated from Peabody Normal College in 1887.

He began the practice of law in Gadsden in 1890. In 1901, Mr. Hood served as a member of the Constitutional Convention from the Seventh Congressional District.

Mr. Hood was a great lawyer. For many years he was the leader of the bar in Gadsden.

Throughout a period of 35 years, Oliver R. Hood was closely associated with William Patrick Lay and Reuben A. Mitchell in the development of electric power in Alabama. During the entire life of this Company, whose charter he wrote, his great ability was made available to it in important periods of its history.

Mr. Hood passed away at his home in the City of Gadsden, on Thursday, March 1, 1951.

* * *

THEODORE K. JACKSON

Theodore K. Jackson was a native of Chicago and received his early education in the elementary schools of that city and in the Chicago School of Manual Arts. He was a graduate of the University of Michigan. Upon the completion of his education, Mr. Jackson was appointed manager of several power plants for H. M. Byllesby & Company of Chicago. In 1906 he was sent to Mobile to be in responsible charge of the building of a new steam plant for Byllesby & Company. Upon its completion he was made manager of the properties in Mobile and a short time later was elected president of Mobile Electric Company. He occupied this position until Alabama Power Company took over the Mobile system in 1925, when he was elected a vice president of the Power Company. He died in 1945.

Mr. Jackson, throughout his long service in Mobile, made many contributions to the social, industrial and economic advancement of the Mobile area.

HOBART A. McWHORTER

Hobart A. McWhorter was a member of the law firm of Martin, Turner & McWhorter, attorneys for Alabama Power Company. He had been an associate or member of the firm for twenty-eight years. During this period, he worked closely with the officials of the Company, rendering invaluable service by his wise counsel and advice with regard to the many and varied legal questions that arose in the development and operation of the Company; particularly in connection with financial and tax problems, labor relations and with the various regulatory bodies having jurisdiction over the affairs of the Company.

Mr. McWhorter died December 15, 1950, following injury in an automobile accident.

* * *

GEORGE H. MIDDLEMISS

George H. Middlemiss was born in Sacramento, California in 1887. He graduated from the University of California in 1910 with high honors. After graduation he was employed by Pacific Gas & Electric Company at Sacramento and joined Alabama Power Company in August of 1917. It was under him that the operating divisions were first organized—the Eastern and Western Divisions. Many of our technical advances had their inception in his imaginative mind. As manager of production and transmission of Southeastern Power & Light Company, and later of The Commonwealth & Southern system, he contributed his engineering talents to the creation of the interrelated power system, to the great benefit of the public and the companies in the group. He was a modest man of simple tastes. Perhaps the outstanding traits of character of patience, and his loyalty and sincerity. Mr. Middlemiss died on June 17, 1946 as the result of an accident at his home.

REUBEN A. MITCHELL AND SIDNEY Z. MITCHELL

Reuben A. Mitchell and his brother, Sidney Z. Mitchell, both native sons of Alabama, were among the early pioneers in the electric industry in Alabama. They purchased utility companies in Decatur, Huntsville, Talladega, Anniston and other communities in Alabama and built the first transmission line between Talladega, Anniston and Gadsden. These properties were acquired in 1912 by James Mitchell and associates for the Alabama Power Company, and formed important elements in the Company system. Both of the Messrs. Mitchell served as directors of the Alabama Power Company and of other associated companies.

In recognition of the outstanding services rendered by Colonel Mitchell and his brother Sidney Z. Mitchell, and in keeping with the policy of Alabama Power Company of giving human significance to its power developments, the board of directors in 1927 authorized the naming of the Lock 18 Development on the Coosa River near Wetumpka, Jordan Dam, in honor of Elmira Sophia Jordan Mitchell, the mother of Reuben A. and Sidney Z. Mitchell. In accordance with this resolution, exercises were held at Jordan Dam on November 21, 1927, attended by a large gathering of men of affairs from many parts of the nation, including Mr. Owen D. Young; also boyhood friends and thousands of citizens who appreciated what they had done for the electric industry and for the State of Alabama.

Alabama Power Development Company had been incorporated under the laws of Alabama on March 29, 1907 by Colonel Reuben A. Mitchell of Gadsden and associates.

His accomplishments were many, beginning with the establishment of a large textile mill at Alabama City. He entered the public utility field with his brother, Sidney Z. Mitchell and associates when they bought the above named utility properties. Alabama Power Development Company built the first electric line for transmission of power connecting two cities in the state. This line ran from Talladega to Anniston and from Anniston to Gadsden. Reuben A. Mitchell was later made a vice president of Alabama Power Company.

Sidney Z. Mitchell of New York, a younger brother, graduated from the United States Naval Academy and served for a number of years in the Navy. After resigning he was associated with the Edison Company on the Pacific Coast, later engaging in electrical construction work in Oregon, Washington, Idaho and Southwest Canada. In 1905 he went to New York City where he joined Electric Bond & Share Company of which he was president until his retirement in April, 1933. He died on February 24, 1941.

As indicated above, Mr. Young joined with other important men in national affairs in coming to Alabama to pay tribute to Sidney Z. Mitchell at the dedication of Jordan Dam. In the course of his tribute to Sidney Z. Mitchell, he said: "He is a man of great energy and persistence. No obstacle is so great that it cannot be

overcome. No hours of the day are too long to devote to the mastery of a problem. No time like now to act. . . . And now, Mr. President, only one thing more. In the name of sons everywhere, I thank you for this memorial to a mother. It is unique, but highly appropriate. As this dam, with its gentle, but firm resistance, masters devastating and destructive floods for beneficent use, so mothers gently conserve and direct the forces of destruction and disintegration which are in us all, and teach us how to put them to helpful use. I know of no monument finer for a mother than a dam like this. As the generations yet to come listen to the peaceful flow of the waters, and the steady whirr of the machines, it may be said both of Elmira Mitchell and of the Jordan Dam, as it was said of one of the famous women of all time:

*'Will no one tell me what she sings.
Perhaps the plaintive numbers flow,
From old forgotten far-off things,
And battles long ago.'*

"Truly, it may be said of this dam, as of mothers, that it gathers up the tears of nature and makes them smile in service."

Mr. Owen D. Young was then best known of all the business statesmen of America. Today, in semi-retirement, he is, in the author's judgment, the elder statesman in America of business and business ethics.

WELLS M. STANLEY

Much of the expansion of Alabama Power Company's business occurred in the period 1930-1949 when Wells M. Stanley was vice president in charge of sales. Mr. Stanley, native of Pierre, South Dakota, came to Huntsville, Alabama, with his parents in 1893. In 1909 he was employed by a local company whose properties ultimately became part of the Alabama Power Company system. Beginning in 1912 with the Power Company, he served in various positions of increasing importance; including that of general manager, Gulf Electric Company in south Alabama, and of Gulf Power Company, Pensacola, Florida. He returned to Alabama Power Company in 1928 as manager of sales and was elected vice president in 1930 and a director in 1935.

At the time of his resignation in 1949, it was said of him, "Alabama Power Company can expect no greater degree of loyalty than that shown by Wells Stanley. Loyalty to the Company and his associates, coupled with outstanding ability, energy and unselfishness in the line of duty have won for him the respect of his associates. While we would prefer that he change his decision, we do not wish to deprive him of the relaxation and pleasure to which he had looked forward for years."

* * *

THEODORE SWANN

Theodore Swann came into the Company in 1913 as sales manager. He had been doing excellent work in promoting electric power sales in West Virginia and was invited to join the Power Company. He quickly developed a group of brilliant young men who devoted their talents to making engineering reports on many industries then in reach of Power Company lines and laying the ground work for later presenting the desirability of purchasing electricity from the Power Company rather than generating their own. This work was carried on for several years, in the course of which Swann became interested in scientific research and resigned his place with the Company in 1917, developed Swann Chemical Company and related companies at Anniston, and for years pursued his enterprises with increasing success. Much credit should be given to those who thus had the foresight to lay the basis on which electricity could be sold from the initial generating plants of the Company.

WENDELL LEWIS WILLKIE

Wendell Lewis Willkie was born in Elwood, Indiana, on February 18, 1892. His father, Herman F. Willkie, and his mother, Henrietta Trisch Willkie, were both engaged in teaching school at Milford, Indiana, at the time of their marriage, in 1885.

Wendell entered the University of Indiana in 1909. He graduated in the liberal arts course in 1913.

On April 6 of the following year, the day the United States entered the First World War, Mr. Willkie enlisted. He was first sent to Officers' Training School; received his commission as a second lieutenant. Following this, he was sent to Harvard University for training under French infantry officers. From there he was transferred to the School of Fire at Fort Sill, and later was assigned to the 84th Division of the 325th Artillery in France.

When he was discharged from the army he took up his residence at Akron, Ohio and joined the law firm which represented certain of the utilities. A few years later he went to New York and joined John C. Weadock as counsel for The Commonwealth & Southern Corporation.

In January 1933, Mr. Willkie became president of The Commonwealth & Southern Corporation and served on the board of directors of Alabama Power Company from 1932 to 1936.

This was the era when the Federal Government began to enact legislation which had a sharp impact on the utility industry. The Tennessee Valley Authority Act of 1933 was adopted, bringing on many complications for Alabama Power and other southern companies.

The first major problem was adjustment to the Tennessee Valley Authority. Mr. Wilkie concurred in the action of local Company officials in making a contract giving the TVA an option to purchase certain Alabama, Tennessee, and Mississippi properties in the immediate vicinity of the Tennessee River. It was felt that this should be done in order to protect the system as a whole from encroachment and to preserve the public utility industry as a strong part of the free enterprise system. The Mississippi properties covered by the contract were conveyed. Because of litigation by stockholders of Alabama Power Company, the Alabama properties were not conveyed until the Ashwander case was decided in favor of the TVA in 1936.

The constitutional issue was not decided, however, and the conclusion was reached among utility executives to test the constitutional issue rather than risk piecemeal destruction by the expanding Authority. This led to the so-called "19-Company Suit," being the suit of nineteen public utilities in the area, including Alabama Power Company, to test the constitutionality of the TVA Act.

Again in this case, however, a decision on its intrinsic merits was not reached because the Court decided that the damage to the utilities resulted from competition of the TVA for which there was no legal redress. Upon the decision of the Court, in January 1939, Mr. Willkie and the other executives accepted the verdict and decided to come to terms with the TVA. The result was the sale of all the electric properties of The Tennessee Electric Power Company to the Authority and its municipal and cooperative associates, and the sale of certain additional properties in Alabama and Mississippi. The Tennessee Company sale was consummated by Mr. Willkie in August 1939, after extended negotiations, for a gross price of some \$78,000,000 partially reflecting "value." The transaction attracted national attention and focused the spotlight upon Mr. Willkie as the principal actor in behalf of the utilities.

For thus salvaging the investment of Tennessee Electric Power Company in the interests of its security holders, and for his statesmanlike handling of the negotiations, Wendell Willkie received wide acclaim. Perhaps no single incident contributed more to the demand for his nomination for the Presidency of the United States than this evidence of adjustment to the changing American scene by the negotiation of the best possible settlement in all the circumstances.

Mr. Willkie was nominated for President in the Republican National Convention in 1940 and promptly resigned his utility connections. He received 22,304,755 votes; being defeated by Mr. Roosevelt, who received 27,243,466 votes, then running for his third term.

Mr. Willkie died October 8, 1944 in New York City of a heart attack, leaving the widow, Mrs. Edith Wilk Willkie, now residing in New York City; and one son, Philip Willkie, residing at Rushville, Indiana.

EDISON ELECTRIC LIGHT COMPANY

"The organization of the Edison Electric Light Company marked the beginning of today's great electrical utility systems, and it was thus against a background of private enterprise that the genius of Edison was projected and brought to fruition for the great benefit of the world."

"The first central-station for supplying Edison incandescent lamps was the experimental system set up for demonstration purposes at Menlo Park in December, 1879 and demonstrated to the public on that New Year's Eve, as already related. Power was supplied by three six-kilowatt bipolar generators driven by belts from the steam engine installed in the machine shop. About 80 lamps of the paper-filament type were lighted at that time. Later this plant also supplied power for Edison's experimental electrical railroad and for the Menlo Park lamp factory one-half mile distant. Power was transmitted by overhead wires supported on poles."

"When the success of Edison's experiments became known, many manufacturers and others saw the benefits the light would bring to their operations, and requests began to pour in for generators and lamps for a wide variety of establishments."

—The Incandescent Light, Thomas
Alva Edison Foundation, Inc., 1949

PEARL STREET STATION

"The crowning achievement of all this development was the famous Pearl Street system in New York, which began operation September 4, 1882. This marked the beginning of large-scale public application of the incandescent electric light anywhere in the world*. The story of the laying of the underground main and feeders, of the building of the generators, the manufacture of all the other detailed equipment required before the station could be placed in operation, and the construction of the power station itself is one of the most dramatic episodes in the development of industrial America."

"Edison not only supervised all of these operations, but did some of the work himself. In his patent-hearing testimony he declared that he was almost constantly present, giving his entire time to the work day and night. "I had to give my careful and constant supervision," he explained, adding by way of illustration: "I actually worked in the trenches in the streets in the lower part of the city, in which the conductors were being laid, making many of the connections myself."

"Every aspect of the Pearl Street system was of an unprecedented nature. Every step presented fresh problems with all the headaches and heartaches that always are associated with such developments. Nor were all the problems solved when operation began, for there were many operating difficulties to be grappled with. That all these problems were eventually solved and all the "bugs", as Edison had termed them, located and eliminated is itself the best testimonial to the genius and steadfastness of purpose of the great inventor and his men. To a reporter of the New York Sun, which had closely followed Edison's work on the light from the beginning, he declared, simply, 'I have accomplished all I promised'. And indeed he had!"

The Incandescent Light, A review of its invention and application by Floyd A. Lewis—Published by The Thomas Alva Edison Foundation, Inc., West Orange, New Jersey, 1949.
Pages 23, 46, 47, 48 and 50.

*Holborn Viaduct, London, opened January 12, 1882, was a relatively small operation.

GOLDEN JUBILEE OF LIGHT

This (the Golden Jubilee of Light) was to the writer a never-to-be-forgotten occasion. The group of somewhat less than 500 comprised distinguished leaders from "all fields of civilized activity." Owen D. Young, toastmaster, spoke movingly of Mr. Edison's "vitality of spirit which makes you do what you do." He read messages from the King of England; the Prince of Wales; the President of Germany; Marconi, and from Commander Byrd in Little America. Mr. Edison himself spoke briefly of "that vast army of thinkers and workers of the past and those who will carry on, without whom my work would have gone for nothing. The Honorable Herbert Hoover, president of the United States, delivered the principal address, extolling the triumphs of the electric light, and praising Mr. Edison most as "the exponent of research." Perhaps the greatest of all his discoveries, said President Hoover, was "the discovery of the method of invention. That method today is that highly equipped, definitely organized, laborious laboratory research alone transforms the raw material of scientific knowledge into new tools for the hand of man."

By radio from Germany, Albert Einstein greeted Mr. Edison: "The great creators of technics, among whom you are one of the most successful, have put mankind into a perfectly new situation, to which it has as yet not adapted."

Henry Ford, a greatly noted and honored guest, did not speak. Nor did Madame Curie, who was present and to whom Commander Byrd in his greetings referred as "that other radiant spirit who . . . has earned the everlasting gratitude of mankind." Other guests included Jane Addams, Walter P. Chrysler, Dr. Arthur Compton, Paul D. Cravath, Lee DeForest, Cyrus Eaton, Harvey S. Firestone, Ossip Gabrilowitsch, Will H. Hays, Otto Kahn, the Doctors Mayo, Henry Morgenthau, Malcolm Muir, Adolph Ochs, George Foster Peabody, Gordon Rentschler, John D. Rockefeller, Jr., Will Rogers, Julius Rosenwald, Charles M. Schwab, William E. Scripps, C. E. Sorenson, Gerard Swope, Daniel Willard, and Orville Wright.

HALL OF FAME CEREMONY HONORING DR. GORGAS

On Thursday, May 24, 1951, 3:00 o'clock, exercises were held in the Auditorium of the Library of New York University, University Heights, New York City, to unveil the busts of Doctor William Crawford Gorgas and Alexander Graham Bell.

The ceremony was presided over by Dr. Ralph W. Sockman, Director of the New York University Hall of Fame for Great Americans.

The bust of Doctor Gorgas was presented by Thomas W. Martin; and unveiled by Mrs. William D. Wrightson, daughter of Doctor Gorgas.

Floral tributes from Doctor Gorgas' native state of Alabama were placed at the shrine by Miss Lua Vaughn Gallalee, representing the University of Alabama, and Miss Clarice Sanford, representing the high school at Gorgas, Alabama. Wreaths were also presented by Mr. John J. Gillespie in behalf of the University of the South at Sewanee, Tennessee, and by Mr. Herman D. Todd, in behalf of the city of Mobile, Alabama, the birthplace of Dr. Gorgas.

Dr. O. C. Carmichael, chairman of the Gorgas Hall of Fame Committee and Major General R. W. Bliss, Surgeon General of the Army also paid tribute to Doctor Gorgas.

* * *

MUSCLE SHOALS COMMISSION

The report of this Muscle Shoals Commission, submitted November 14, 1931, was signed by Congressman S. F. Hobbs, of Alabama, as chairman. Members of the Commission were Edward A. O'Neal, president of the American Farm Bureau Federation; Mercer Reynolds, J. F. Porter and R. L. Moore representing Tennessee; W. F. McFarland, Will Howard Smith and S. F. Hobbs, representing Alabama; and Col. Harley B. Ferguson and Col. Joseph I. McMullen, representing the War Department. It declared for a plan that would "abide by American political and economic principles." On the basis of some 100 pages of factual material assembled, it concluded that it was "economically feasible and desirable" that the Muscle Shoals properties be used primarily for production of commercial fertilizer, manufacture of chemicals and scientific research in behalf of agriculture. The Commission declared its "definite conclusion . . . that the foregoing public benefits can best be obtained by private operation under lease contracts through competitive negotiations." It suggested that there should be authority "to sell or dispose of, on an equitable basis, surplus power at the switchboard; states, counties, municipalities, and chemical operations to have the preference. . . ."

**INSCRIPTIONS ON BRONZE TABLETS
AT ALABAMA POWER COMPANY'S
GENERATING PLANTS**

LOCK 12—DEVELOPMENT
Constructed 1912 - 1914
by
ALABAMA POWER COMPANY
JAMES MITCHELL, *President*
E. A. YATES, *Chief Engineer*
E. L. SAYERS, *Assistant Chief Engineer*
O. G. THURLOW, *Designing Engineer*
A. C. POLK, *Resident Engineer*
W. E. MITCHELL, *Electrical Engineer*
S. B. JONES, *Superintendent of Erection*
MACARTHUR BROS. CO., *Contractors for Dam and Power House*
Substructure
ELECTUS D. LITCHFIELD, *Consulting Architect*
The Initial Development in Alabama Combining River
Improvement With Power Development

(Tablet placed on power house of Lay Dam, 1930)

**This Development is Designated
LAY DAM
By the Board of Directors of
ALABAMA POWER COMPANY
In Recognition of the Contribution of
WILLIAM PATRICK LAY
To The Progress and Development of Alabama
Born and Reared on the Banks of the Coosa River, He Early
Foresaw the Possibilities of its Water Power, the Develop-
ment of which he undertook as founder and first
president of Alabama Power Company.
Through his vision and perseverance
this, the first hydro-electric plant
of this company was com-
pleted in 1914**

MITCHELL DAM
Dedicated to the Memory of
JAMES MITCHELL
Executive Head of the
Alabama Power Company from the beginning
of its active work in 1912 until his death
in 1920.

"To gather the streams from waste, and to draw from them energy, labor without brains, and so to save mankind from toil that can be spared, is to supply what next to intellect is the very foundation of all our achievements, and all our welfare."

* * *

In Memory of
JAMES MITCHELL
1866 - 1920
Whose Foresight, Energy and Perseverance
Made Possible
The Development and Introduction
of
Hydro Electric Power Throughout the
State of Alabama

GORGAS STEAM PLANT
Dedicated by the Board of Directors of
ALABAMA POWER COMPANY
To The Memory of
WILLIAM CRAWFORD GORGAS
Born in Mobile, Alabama, October 3, 1854—Died in London,
England, July 4, 1920
Surgeon General of the United States Army 1915-1918
Servant of Mankind and Benefactor of Humanity

In recognition of his conquests over malaria and yellow fever
and of his services in sanitation and preventive medi-
cine which greatly contributed to power
development and progress in
his native state.

MARTIN DAM—MARTIN LAKE
Named by the Board of Directors
of Alabama Power Company in Honor of
THOMAS WESLEY MARTIN
A Native Son of Alabama
President and General Counsel of the Company in Recognition
of the successful completion of this and other projects
due in so large a measure to his vision, courage and
leadership and in further recognition of his serv-
ice to the Electric Industry and to the In-
dustrial, Social and Cultural Advance-
ment of the Commonwealth.

JORDAN DAM
OF THE
ALABAMA POWER COMPANY
TO COMMEMORATE
THE SERVICE TO THE
ELECTRICAL INDUSTRY
OF
RUBEN ALEXANDER MITCHELL
AND
SIDNEY ZOLLICOFFER MITCHELL
THIS DEVELOPMENT IS NAMED
JORDAN DAM
In Memory of their Mother,
ELMIRA SOPHIA
JORDAN MITCHELL
(1 9 2 7)

This Development Is Designated
THURLOW DAM
By the Board of Directors of
ALABAMA POWER COMPANY
In Recognition of the Genius, Loyalty and Human Qualities
of Oscar Gowen Thurlow and his associates who
have directed great powers of nature for the
service of man through the art of
Engineering

* * *

THURLOW DAM DEVELOPMENT
Constructed 1928-1930 by Alabama Power Company
THOMAS W. MARTIN, *President*
E. A. YATES, *Vice President and General Manager*
O. G. THURLOW, *Chief Engineer*

Construction

Design

A. C. POLK	C. D. RIDDLE	CARL JAMES	F. E. HALE
F. C. WEISS	P. M. BEDETTE	J. A. SIRNIT	H. J. SCHOLZ

S. H. WOODARD, *Consulting Engineer*

Consulting Architects
MILLER AND MARTIN

YATES DAM DEVELOPMENT
Constructed 1927-1928 by
ALABAMA POWER COMPANY
THOMAS W. MARTIN, *President*
E. A. YATES, *Vice-President and General Manager*
O. G. THURLOW, *Chief Engineer*

Construction

Design

A. C. POLK R. B. SHEPARD CARL JAMES J. A. SIRNIT
C. D. RIDDLE P. M. BEDETTE H. J. SCHOLZ F. E. HALE
S. H. WOODARD, *Consulting Engineer*

YATES DAM
Named by the Board of Directors of
ALABAMA POWER COMPANY
In Honor of
EUGENE ADAMS YATES
In Recognition of
His Vision in Foreseeing the Possibilities
of the Development and Distribution
of Power in the Southeastern States,
His Ability as an Engineer and Administrator
In the Construction and Operation
of Power Projects in Alabama, and
His Personal Qualities Which Have Endearred
Him to Friends and Associates

**ALABAMA POWER COMPANY
GADSDEN STEAM PLANT
UNITS I & II**

Erected 1947-1949

THOMAS W. MARTIN, *President*

J. M. BARRY, *Vice-President and General Manager*

F. C. WEISS, *Vice-President and Chief Engineer*

Design

**H. J. SCHOLZ
E. C. GASTON**

Construction

**D. F. ELLIOTT
M. H. HARRIS**

CONSULTANTS

Engineering

**S. H. WOODARD
O. G. THURLOW**

Operating

**E. W. ROBINSON
R. L. HARRIS**

1949

ALABAMA POWER COMPANY

GADSDEN STEAM PLANT

This Plaque is Erected

**In Recognition of the Part the People of Gadsden
Have Played in the Growth and Development of
Alabama Power Company**

**And to Commemorate the Service of
Three Gadsden Citizens, Native Alabamians
Who Contributed Conspicuously to the
Usefulness of Alabama Power Company,
Which Was Organized in Gadsden**

December 4, 1906

WILLIAM PATRICK LAY

1853 - 1940

**Steamboat Captain, Builder of
Gadsden's First Electric Plant
Pioneer Developer of the Coosa
River, Founder and First President
of Alabama Power Company**

REUBEN ALEXANDER MITCHELL

1853 - 1937

**School Teacher, Banker,
Public Servant, Active in the
Advancement of the
Educational, Industrial and
Cultural Life of Alabama,
Vice President of
Alabama Power Company**

OLIVER ROLAND HOOD

1867 - 1951

**Eminent Lawyer, Member
1901 Alabama Constitutional
Convention, One of the
Original Incorporators
Of Alabama Power Company
and Author of Its Charter**

September 16, 1949

ALABAMA POWER COMPANY
GORGAS NO. 1 STEAM PLANT
1916-1924

President

JAMES MITCHELL — THOMAS W. MARTIN

Vice President and General Manager

W. N. WALMSLEY — E. A. YATES

Chief Engineer

O. G. THURLOW

Design

J. A. SIRNIT

F. E. HALE

H. J. SCHOLZ

Construction

A. R. GILCHRIST

C. H. BOYLSTON

C. O. LINEBERRY

F. C. WEISS

Consultants

Engineering

S. H. WOODWARD

JOHN M. GALLALEE

Operating

W. E. MITCHELL

F. P. CUMMINGS

A. T. HUTCHINS

M. F. NEESON

ALABAMA POWER COMPANY
GORGAS NO. 2 STEAM PLANT
1927-1930

President

THOMAS W. MARTIN

Vice President and General Manager

E. A. YATES

Chief Engineer

O. G. THURLOW

Design

J. M. GALLALEE
J. A. SIRNIT
H. J. SCHOLZ
R. M. FERRELL

E. C. GASTON
A. MERGENTHALER
J. A. MCLENNAN
F. E. HALE

Construction

A. C. POLK
C. C. DAVIS
D. F. ELLIOTT

C. W. JOHNSON
M. H. HARRIS
LEROY BALLARD

F. C. WEISS

Consultants

Engineering

S. H. WOODARD

E. B. SEVERS

Operating

W. E. MITCHELL
A. T. HUTCHINS

E. W. ROBINSON
R. L. HARRIS

ALABAMA POWER COMPANY
CHICKASAW STEAM PLANT
1939

President

THOMAS W. MARTIN

Vice President and General Manager

J. M. BARRY

Chief Engineer

F. C. WEISS

Design

H. J. SCHOLZ
E. C. GASTON
F. E. HALE

J. A. McLENNAN
A. MERGENTHALER
G. S. MYERS

Construction

D. F. ELLIOTT

J. E. LADD

Consultants

Engineering

S. H. WOODARD

O. G. THURLOW

Operating

E. W. ROBINSON

M. F. NEESON

R. L. HARRIS

**ALABAMA POWER COMPANY
MITCHELL DAM
1921**

President

THOMAS W. MARTIN

Vice President and General Manager

E. A. YATES

Chief Engineer

O. G. THURLOW

Assistant Chief Engineer

J. M. BARRY

Design

**J. A. SIRNIT
F. E. HALE**

**W. C. TURNER
R. S. WOODRUFF**

Construction

**A. C. POLK
L. V. BRANCH
H. L. MYERS**

**D. F. ELLIOTT
L. J. GEBHARD
C. B. McCULLAR**

Consultants

Engineering

**S. H. WOODARD
STEWART J. LLOYD**

**H. J. SCHOLZ
W. O. CROSBY**

Operating

**W. E. MITCHELL
A. T. HUTCHINS**

**E. W. ROBINSON
R. L. HARRIS**

ALABAMA POWER COMPANY
MARTIN DAM
1923-1928

President

THOMAS W. MARTIN

Vice President and General Manager

E. A. YATES

Chief Engineer

O. G. THURLOW

Design

J. A. SIRNIT
F. E. HALE
I. A. WINTER

E. R. COULBOURN
W. C. TURNER
R. S. WOODRUFF

Construction

A. C. POLK
C. C. DAVIS
C. B. McCULLAR

D. F. ELLIOTT
L. J. GEBHARD
F. C. WEISS

Consultants

Engineering

S. H. WOODARD
STEWART J. LLOYD

H. J. SCHOLZ
W. O. CROSBY

Operating

W. E. MITCHELL
A. T. HUTCHINS

E. W. ROBINSON
R. L. HARRIS

J. M. BARRY

ALABAMA POWER COMPANY
JORDAN DAM
1926-1928

President

THOMAS W. MARTIN

Vice President and General Manager

E. A. YATES

Chief Engineer

O. G. THURLOW

Design

J. A. SIRNIT

I. A. WINTER

F. E. HALE

E. R. COULBOURN

Construction

A. C. POLK

C. C. DAVIS

F. C. WEISS

DOUGLAS ELLIOTT

Consultants

Engineering

S. H. WOODARD

H. J. SCHOLZ

STEWART J. LLOYD

Operating

J. M. BARRY

A. T. HUTCHINS

W. E. MITCHELL

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